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LONDON LETTERS.

[From our Regular Correspondent.]

London, August 22, 1879.

In an official report to Sir E. Thornton, Mr. Victor Drummond stated that during the year ending June 30th, 1878, the value of cotton and breadstuffs exported to the United Kingdom exceeded the value of the total imports of merchandise from the United Kingdom to the United States. In a later report, dated Washington, April 8, 1879, just published by the Foreign Office, Mr. Drummond says this short paragraph sums up the present commercial relations of the two countries. As some slight consolation to the English landowners and farmers who are suffering from this competition, he remarks that American landowners and farmers in the Eastern and North-eastern States also complain of the competition of the Western and North-western States in farming produce:—"This condition of things arises from the low rates, both by rail and water, from the Western and North-western States to the Atlantic ports, and from the development of the agricultural interests in those States, due to their practically illimitable capacity for agricultural production, to the fact that the cost of production is much less than in the more easterly States, and to the fact that the railroad system of the country has been widely extended throughout these States, thereby securing cheap, rapid and regular transportation. During the year 1866, the average rate for the carriage of wheat from Chicago to New York by Lake and Erie Canal was a little over 27 cents per bushel, but during the year 1878, by the same route, the average rate was $7\frac{1}{4}$ cents, and by rail 12 cents. During the present year the average cost of transporting wheat from the region of the Red River of the North, in the northern part of the State of Minnesota, to the City of New York

has been only 26 cents per bushel. This is a marvel of cheap freight."

During the last 28 years the exports of breadstuffs from the United States have increased enormously. In 1860 they were valued at \$24,420,000; in 1878 the bread and breadstuffs exported were valued at \$181,777,000. In 1877 the total production of wheat was 364,184,000 bushels, produced on an area of 26,277,000 acres, an average yield per acre of 13.9 bushels. This was the highest average yield during ten years, the annual average yield of the years 1868-77 being 12.12 bushels per acre. The average value per bushel was 142.4 cents, but this seems to have been an exceptional year. The diminished value per bushel of the other cereals in the United States is shown still more forcibly than in the wheat crops. Corn, for instance—the total production of which in 1877 amounted to the prodigious quantity of 1,342,558,000 bushels, grown on an area of 50,369,113 acres—fell in average value per bushel from 62.8 cents in 1868 to 35.8 cents in 1877; the annual average being 49.1 cents. Rye in like manner fell in value from 127.4 cents per bushel in 1868 to 59.2 cents in 1877, the annual average in the decennial period being 83.7 cents. Oats, which were valued at 55.9 cents, per bushel in 1868, fell to 29.2 cents in 1877, with an annual average in the ten years of 40.1 cents. Barley was valued at 130.2 cents per bushel in 1868, and at only 63.9 in 1877, with a annual average in the like period of 89.9 cents.

"From statistics it appears that the exports of bacon and hams were fifteen times as great in 1878 as in 1870; beef three times and a half as great; cheese twice as great; lard nearly ten times as great; and preserved meats more than sixteen times as great. The average export price of bacon and hams in the United States fell from 15 7 cents in 1870 to 8.7 cents in 1878; of lard from 16.16 cents in 1870 to 8.8 cents in 1878; and of pork from 13.2 cents in 1870 to 6.8 cents in 1878; while on the other hand, the price of salted beef increas-

ed from 7.3 cents per pound in 1870 to 7.6 cents per pound in 1878. The rapid extension of corn culture has increased the pork supply very much beyond the requirements for home consumption, thus leaving a yearly increased surplus for exportation to foreign countries. The falling price of corn seems to have corresponded nearly with that of pork and pork products, the export price of the former having fallen from 93 cents per bushel in 1870 to 56.2 cents in 1878. It is estimated that the total product of butter in the United States during the year 1877 amounted to 950,000,000 lbs. It would appear, therefore that the exports of butter during the year 1878 amounting to 21,837,117 pounds, constituted about 2.3 per cent. of the total production in the country. The total production of cheese in the United States during 1877 is estimated at 310,000,000 pounds, of which 123,784,736 pounds constituting about 40 per cent. of the entire product was exported."

The value of exports of live animals from the United States during the last fiscal year was eight times the value of such exports during the year ended the 30th June, 1868. About 55 per cent. of the entire exports of live animals was to Great Britain and Ireland about 15 per cent. to Cuba, and about 12 per cent to British Possessions in North America.

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London, August 27th, 1879.

Heavy rains and floods still continue in England. In the Windsor district, the Thames has risen several inches above the level of the previous evening. During Tuesday night the rising water entered the gardens of the houses on the north side of Arthur road, Windsor. These are situated about a quarter of a mile from the river channel, the inundation reaching the back doors. There is now an unbroken stretch of water extending northwards of Windsor across the Brocas to Eton College, the lake thus formed being quite a mile in length, and covering acres of pasture land, Windsor race-course is very extensively flooded, and the Grand Stand is almost isolated, most of the Clewer Rays, upon which this favorite meeting is held being submerged. Eton and the College are nearly surrounded. Eastward of Windsor and Eton the river is leaving its usual course, and flooding the pastures and farms. About Datchet, Horton, and Wraysburg, and at various places along the Thames Valley, hay and corn crops are being seriously damaged. Harvesting had been commenced upon the Prince Consort's Farm in the Great Park, and elsewhere in Berks. Bucks, Surry, and Middlesex, but the inclemency of the weather has put a stop to the operations, and the cessation

of work is causing great distress among the poor people seeking employment in the harvest fields, and who, in consequence of this absence of work, now find themselves without means of support. At Old Windsor and Staines, the floods are also out in various localities, and the country in the Thames Valley, viewed from the battlements of the Round Tower of Windsor Castle, looks like a chain of lakes extending eastward and westward of the Royal borough for many miles. Hay and grain lie rotting in places in swamps formed by the overflowing of the river and its tributaries, and the prospect of farmers are dismal enough. They cannot now escape without loss, even should the fine weather set in at once, while a continuance of rain for another week or two, must entirely ruin the chance of harvesting their crops in a fit and marketable condition.

In Chester, farmers are about disposing of all their store-stock, because their hay has been washed away by the floods. The state of agriculture in Cheshire is worse than serious. The season has been simply disastrous, and the farmers have nothing but ruin to face. In the low-lying ports of Flintshire and Denbighshire things are, if possible, still worse. Turnips, mangolds, and hay, good proportion of wheat acreage is to be looked to; but in the counties enumeration the roots and corn crops are all buried in water, and when the water subsides the desperate agriculturists will be presented with a cast up sea of mud.—seed, manure, labor, all buried in the horrible quagmire. On Tuesday some Cheshire farmers commenced cutting white oats, but the dense rain of to-day will not only stay operation, but it will effectually prevent corn, which is already fully a month behind ripening. With hundreds of acres of land under water, hay washed away, corn soft in the ear and beaten to the ground, with barley promising only half an average yield with quite half the potato crop deceased, and with little promise of a fair supply of roots the prospects of the farmers in this quarter are dismal indeed.

At the meeting of the Board of Guardians at Sittingbourne yesterday the effects of the disastrous weather were shown by statistics presented by the work-house master, from which it appeared that during the last week no less than 231 persons had been admitted into the casual wards. This number is an increase of 129 over the corresponding week of last year, and is the highest ever known since the establishment of the work-house. The 231 persons were made up of 137 men, 53 women and 41 children. Many of them have apparently come to the neighborhood for the harvesting and hopping, but in consequence of the continued wet

much of the corn still remains standing, and what few hops there will be to pick will not be ready for days yet. There is no doubt that throughout Kent the growth of hops will be much smaller than in previous years, and there is no prospect whatever of the multitudes who usually emigrate from London to Kent for the hop-picking finding employment this season. This fact cannot be too widely known, as the incursion of "hoppers" is as great this year as it has been in prosperous seasons. A very lamentable state of things, and much misery to these people must be the result. The fall of rain was incessant yesterday, and, while agricultural operations are paralyzed, work in the brick-making factories is also entirely suspended. Not only will there be many millions less bricks turned out this year than usual, but the weather is such that those which have been moulded cannot dry, and in some factories the newly made bricks are dropping from the stacks.

Farm Work for November.

As the sowing of grain ought to be over, tobacco housed, and corn ready for husking, this month has not many calls upon the farmer, and he may enjoy a little time in the recreative sport of hunting with dog and gun, to which the beautiful weather of Indian Summer will tempt him when he hears the whistle of Bob White, the drum of the partridge or pheasant and the call of the wood-duck.

During this month a good supply of fuel, or the winter's supply if possible, should be placed under cover near the dwelling, and the ice pond put in order before the ground freezes, that it may become filled with water so the banks will be tested as to their capacity to resist the pressure, and disclose any leaks that may be; besides, by being early filled the water will settle and become clear against the first hard freeze.

Leaves and rubbish and weeds can be gathered and placed in the cow-pens and barn-yard for manure. Shelters for wintering the stock ought to be made this month, and the pens attached to these shelters to separate the different kinds of stock, and the young from the old. It is best to begin in time to make winter preparations.

GATHERING IN CORN.

It is best to pull off the ears from a goodly quantity of stalks and haul them to a barn or shed, to be husked when the weather will not permit "shucking" in the field. To save labor, it is found best to have a wagon in the field to receive the corn, as fast as it is shucked. It is thrown in the basket which when full is emptied in the wagon.

The soft corn and nubbins can be thrown in a separate basket and sent home on the top of each load of corn as it is sent to the crib. Corn should be put in the cribs as soon as it is possible, after it is dry enough, because the waste of corn in the field is immense, and it is severe work husking corn in cold weather. The corn cribs should be rat proof. Few men realize what great loss is sustained annually by the damage caused by rats.

As soon as two shocks of corn are husked, the stalks should be gathered and put into one shock, in a neat and compact manner and tied near the top, so that they will not blow over or be injured by rain and the fodder will keep sweet and retain its color, until it may be wanted for the stock. Well cured fodder is greedily devoured by cattle, sheep and horses. When cut up fine, made wet or steamed, and then sprinkled with corn meal and bran, makes a fine food for all.

FERTILIZERS FOR WHEAT.

If no fertilizers were used at the time the wheat was sown we would advise the application at once per acre of 300 pounds of kainits or same quantity of bone flour, like the Missouri Bone Meal, or if such cannot be afforded, use 4 bushels of salt well mixed with 1 of gypsum. The great object is to force the early growth of the wheat before winter. It is the opinion of many wheat growers that the fly injures mostly the tender and more delicate wheat plants. One successful wheat grower told us he defied the fly, by preparing his ground well, and having the soil so rich as to force the wheat to stalk so strongly, it resisted all serious attacks of this insect.

ROOT CROPS.

Gather and house or bury in stoops or ditches, the beets, carrots and potatoes before severe frosts; turnips may be taken up later. Our plan for securing these roots is to dig a ditch 4 feet wide, 18 inches deep in a dry place and pile up the roots two feet above ground in the form of a triangle, cover with straw, and then over the straw throw three inches of dirt and pat it firmly. When the ground is likely to freeze, cover these stoops over with more earth, or a heavy coat of corn fodder or straw, thick enough to keep out the frost. These trenches may be 10 to 50 feet long as required or most convenient. Cut small ditches around these heaps or trenches to carry off all water. Pumpkins may be kept a long time under cover and buried in dry wheat chaff or leaves; they should not be allowed to touch each other.

STOCK OF ALL KINDS.

Horses should be stabled at night, and brood mares and Colts have access to comfortable shelters.

Milk Cows.—Feed these night and morning with a little bran and cut green fodder, wetted and mixed, or a large feed of pumpkins without the seed, cabbage leaves or other vegetables, so that they will be kept up to their milk, as this is a fine month to put up winter butter.

Beef cattle and calves should be generously fed. The heeves should have at least once a day a good feed of new corn with the stalks and fodder to pick over.

Hogs.—Those for pork should now be fattened rapidly, giving them charcoal, and occasionally a little salt and sulphur in their drink. Let them have besides boiled vegetable, all the new corn on the ear they will eat clean three times a day.

Sheep.—See that the flock is not frightened and injured by the dogs, sportsmen often carelessly allow at this season to get out of their sight. Kill all the vile curs that are seen in the sheep pasture or running rabbits over the farm, for if they can not get rabbits, they will not object to mutton. One good sheep is worth fifty worthless dogs.

ORCHARDS.

Finish picking apples and pears. If you have not as many trees of all the classes of fruits, be sure and plant out enough of the best sorts adapted to your locality of the apple, peach, quince, cherry and pear. Fruit has become a great item in the revenues of this country, and fortunes if not entirely made by these products, are largely helped. They at least contribute greatly to the comfort, health and economy of the household. Who can resist having plenty of fruit, when they see the enjoyment children derive from the blessed, luscious fruits?

We give a list of some of the choicest sorts of fruits we think will prove profitable in Maryland and Virginia.

Peaches.—Early June, Waterloo, Early Froth, Early Crawford, Mixon Free, Mixon Cling, Lemon Cling, Late Crawford, Heath Free, Smock and Heath Cling. Most of them are old sorts, but they are the best.

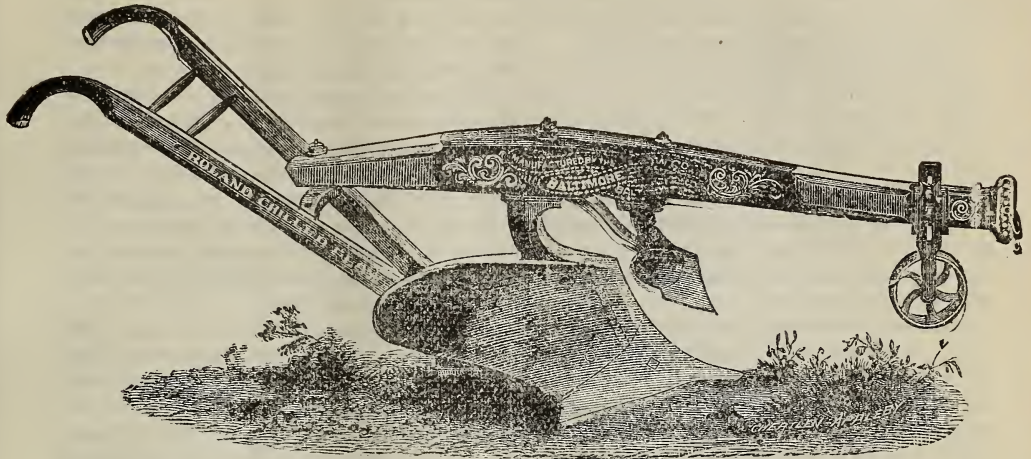
Apples.—Early Harvest and Red Astrachan for summer; Maiden's Blush and Smokehouse for autumn, also Rhode Island Greening and Summer Pippins and Porter. For winter, English Red-streak or Wine-sap, Baldwin, Russetts, Cart House and Pomme de Api, with Bell-fleur and Winter Catlin. The last is rapidly disappearing, but should be carefully preserved, as it is a delicious fruit, keeps well and the tree is healthy, and a good bearer on Maryland soil. The loss of the old time Red-streak, large Green Pippin, and the Catlin is irreparable, and can never be made up by any of the newer sorts lately introduced.

Pears.—Belle Lucratine, Bartlett Louise Bon de Jersey, Osborn, Duchess d'Angouleme, Buerre de Anjon, do well as dwarfs on quince stock. The Vicar of Winkfield as a pyramidal tree; and for standard trees, the Seckel—best of all, Lawrence and Buerre Bosc and the Kieffer with a few of the late improved sorts as experiments.

Cherries.—Plant May Duke, fine for dwarfs or pyramids, Yellow Spanish, Napoleon Bigarreau, and Black Tartarian among others. The Yellow Spanish is a superb cherry, and succeeds well in Maryland. It is best to get fruit trees in autumn, and if not then planted, heel them in, by digging a trench and laying them in at an angle of forty-five degrees, sifting fine earth about the roots, and then covering them deep enough to keep out frost, leaving two thirds of the stem and branches above ground, next spring set them out and they will do as well or better than if planted now. If you intend to plant fruit trees, be sure you buy them now, for if you put it off for Spring you may neglect it or find yourself too busy, whereas, if you have them on hand, well heeled in, you will be sure to find the time to plant them, as you can prepare the land at your leisure during winter, dig the holes and have ready a supply of rich compost to put about the roots when the ground is ready for their reception in early Spring. No time will be lost in the growth of the trees, and the chance of winter killing and other fatalities of a long winter will be avoided.

PLOWING FOR NEXT YEAR.

During the month and in all open weather during winter, all rough or stiff, clayey ground intended for crop next year should be ploughed deep, and pains taken in lapping the furrows. In no department of agricultural Implements has greater improvement been made than in plows during the last thirty years, and yet they do not approach perfection. In cultivators and shovel-plows perfection has been nearly reached. For turning the sod and rough, sedgey, or heavily set grass lands, no plows yet invented we think surpass the chilled plows of Oliver, and the Roland chilled plows of the Baltimore Plow Company. We prefer the latter, as its draft is about the same as the Oliver,—both are very light draft for the width and depth of furrow cut,—and it has its cutter and point in too pieces, the Oliver has both in one, if either is broken or much worn, it can be cheaper replaced; also the heel of the beam is adjustable on the slotted brace between the handles, so that the plowman can always set it to suit his work. It has a jointer or skin plow attached, which is desirable in rough sod land, and has a wheel, both of which can be taken off



and not used, as the operator may desire. We give a cut of this admirable plow. These plows are of every size required, from a small, one horse to a huge, three horse plow, cutting furrows according to size from $4\frac{1}{2}$ inches wide 9 deep, to 9 wide and 15 deep. The great recommendation of these plows is the ease and certainty with which they can be adjusted to cut furrows the width and depth that is wanted. There can be no thorough and economical cultivation of land without good plows. It is true economy to abandon the use of plows which do unsatisfactory work and procure such as will suit. The old skimming and skinning process has long been abandoned by progressive farmers. Most of the old plows left half the land uncut between the furrows, whereas these improved patterns have shares so constructed that they leave no ground uncut between the furrows, as they pass well under the previously turned furrow. We highly commend them to the farmers.

Garden Work for November.

The garden should this month be fixed up for the winter. The weeds, grass, dead vines, leaves and trimmings of small trees set, ought all to be collected and with mould, ashes, some manure from cowyard, be all put in a heap and composted, using liquid manure and soap suds to increase decomposition and add to the fertility. Unoccupied plots or spaces, should be well manured and plowed deep or well spaded and left in the rough, not harrowed or raked.

Cold Frames.—Prepare these and fill with lettuce, cabbage and cauliflower. The frames should face the south, and the covers or sashes removed every fair or mild day. In most parts of this State and

in the South, ridges a foot or more high may be thrown up and lettuce and cabbage plants, set six inches apart on the south side of the ridges, which should run north-east and south west, after planting, fill the trenches with course long manure up to the bottom leaves of the plants. Place across the ridges strips or plank or staight poles on which put corn stalks and straw or a cover of straw matting, (easily made) when the weather is very cold, and remove it when the days are mild.

Squashes.—Should be gathered before frost and stored in a dry place where they will not freeze.

Sweet Potatoes.—After the first hard frost, gather these on a dry day, handle carefully and put in a dry, warm place.

Tomatoes.—Cover some of the bearing vines with old clothes or papers, each night that there may be frost, and they will continue to produce and ripen until the ground freezes hard. Parsnips and Salsify, leave in their beds as freezing improves them. Beets, Carrots, Irish Potatoes and Turnips, gather during the month and bury in pits, or in trenches of convenient length, divided by walls of earth, so as to have only a few bushels of roots in each division, for convenience in getting out as wanted in winter.

Cabbages.—Gather those that are headed and set them roots upward close together in three or four rows on dry level ground and cover with three or four inches of earth, rounded up sharp at top and patted firmly. Those that are not headed let stand until cold weather, then put them in narrow trenches close together, place over them boards and these cover, in very cold spells with litter or straw,—cornfodder is very good and convenient.

Strawberries.—Mulch these after the beds have

been cleaned of weeds and runners not wanted, and the ground between the rows well raked.

Asparagus Beds.—Cut and burn the tops if not already done, so as to destroy the seeds. Clear the beds of grass, fork up the ground and give a heavy coat of course manure, on which a sprinkling of salt.

Beans.—Limas and other pole beans may be lifted with the poles and put under cover, where the green beans, will keep fresh for some time and the dry beans can be gathered and shelled in rainy weather conveniently.

Shrubbery of all kinds, Goosecherries, Currants etc.—May be planted out this month.

Strawberries.—Tho' rather late may be planted, and well mulched they will do well. Before hard weather cover lightly with straw, or leaves and brush on top to keep the light covering from blowing away. The best sorts of vines, are Downing, or Am. Seedling, or Houghton gooseberries; Kittingin Blackberry, old Dutch and Cherry red Currants, White Naples, and the Black Naples Currants; Red Antwerp, Gregg, Catawissa, and Ohio Everbearing Raspberries, and of strawberries, the Sharpless, Capt. Jack, Triomphe de Gand, Forest Rose, and for a good early sort, plant the Nicanor.

We would urge the planting of one or more of "Downings Everbearing Mulberry" trees, if you wish a constant supply for weeks of this luscious fruit, so much relished by children and chickens, and not unwelcome to every one fond of fruit.

Importance of Clover in Farming.

For a great number of years clover has occupied a prominent position on the farm, partly from a sort of supposed necessity. In former years it was the custom among New England farmers to seed their lands to grass in the spring with a crop of oats or other spring grain, because of the belief, that timothy, and other grasses, would not come to sufficient maturity the year following to produce a crop, white clover would. Therefore, because of its being an exceedingly rapid growing plant, producing under favorable circumstances, an exceedingly large crop, and frequently a second crop of excellent hay, it has been continually employed as a forage crop on all well regulated farms. So far as its value for feeding purposes, when dry, are concerned, it all depends on the cutting and curing; for there is no kind of hay that is more easily injured than clover; some individuals go so far as to claim a decided injury, even from the breaking up of the stalks while curing. If it is cured properly, so that when in

the mow, it is free from dust, it forms an excellent feed for horses; but of a little musty or filled with dust, it is liable to engender heaves.

Opinions vary somewhat as to its value for feeding milch cows, although the general opinion seems to substantiate its value for the production of milk, and very many insist that the use of good clover have not only increases the quantity but improves the quality which is an important consideration. Again, for sheep and calves it is a good fodder, for the latter, more especially when the stalks are not too large.

For lambs it forms excellent feed just as they are commencing to eat hay as they catch at the tender leaves and eat them with avidity. It is especially adapted to young lambs and calves, because it contains those elements that enter into the bony structure of animals, and so goes to build up the frame work of the system. And for furnishing grazing and for soiling purposes it is invaluable.

Being rapid in its growth it furnishes an abundant supply of nutriment. It is not uncommon for it, when sown in early spring with grain, to send up a mass of leaves to the height of ten or twelve inches, which, judiciously fed, affords an opportunity of reducing whatever stubble may be left at time of harvest. Those who have adopted a system of soiling need no recommendations of this plant as an important crop; and when soiling is carried on systematically, the course of crops would be considered as incomplete without an ample surface in clover.

But its importance does not lie exclusively in its feeding value as those farmers who follow a systematic rotation of crops have long since found out. In some sections of country, farming would be considered as unhinged if a regular rotation was not employed, or followed. This is happily illustrated in Orleans Co., New York, in which a large proportion of the farmers fallow a three or four years rotation, and chiefly for the purpose of the advantage that they believe results from this periodical employment of clover, or its growth in the land, as an important auxiliary to the fertility of the soil. It has always been observable to what an extent not only in lateral but in the vertical direction the roots of the clover enter the soil; and as the substance of the root as well as the top is believed to come largely from the atmosphere, it is plain that what is below the surface together with the stubble must go to increase fertility when it goes to decay. Nor has science been slow in demonstrating that a large amount of plant food is contained in the stubble and root, having named the approximate amount that will be contained in

an acre of average growth. And from the character of the roots, descending deeply besides spreading the soil is penetrated, and as it were broken up to receive more readily the roots of succeeding crops. Thus in the New York rotation commencing with corn or beans upon the soil followed by oats or barley, and then by wheat with a seeding of clover allowing it to stand not over three years, it is clear to be seen that every five years there is a deposit so to speak in the soil of such an amount of fertilizing material as is represented by the elements of the clover stubble; and so firm is their faith in its use that they have come to the firm conviction that they could not carry on farming without it, and it is very certain that by pursuing the course which they do their lands are enabled to produce good crops by the use of comparatively less manure than is used in New England.

Perhaps it is a lesson for the farmers yet to learn, to place more dependence and reliance upon the means provided by nature, than to spend so much of their substance in the purchase of artificial helps.

WM. H. YEOMANS.

Columbia Conn.

Ground Cobs

The *Massachusetts Plowmen* on this subject says: If cobs are ground fine they are not so indigestible as is supposed. The finer they are ground the more valuable, and they should be ground as finely as possible. With Dr. Nichols, who had at first misgivings as to the utility of using cob meal, investigation settled the matter. He says: "I selected a well-formed ear of corn, and removing the kernels, subjected the cob to analysis, with the following result: 100 parts gave of water, 7.48; crude fibre, 30.95; ash, 1.16; carbohydrates, fat and albuminoids, 6.41. The results of analysis proved that there is in corn cobs a considerable amount of fat-producing and flesh-forming constituents. In the sixty per cent. of carbohydrates, albuminoids, fat, etc., are found the elements which have the nutritive value. It is shown that cobs have a higher value than wheat or rye straw, and they equal in nutritive constituents the best quality of oat straw. Probably different results would be reached by the use of corn with a large and heavy cob and light kernel. Such, in my view, should not be raised, for it is wasteful and unprofitable farming. The cob, I learn from analysis, is a great robber of potash from our soils, and therefore, we must not produce any more than is possible, if it is to be regarded as a waste product."

For the Maryland Farmer.

Wheat and other Crops in the West.

PERFECT THE GROWTH TO HIGHEST DEGREE.

Editors Maryland Farmer:—During a tour of several months, the past Summer, through half a dozen States, I made observations and drew some contrasts between the farming in those States, in which some lessons were suggested to my mind, and perhaps the facts may be useful "food for reflection" to some of your readers — therefore, they are here submitted for your use, if you deem them worth publishing.

It is often said, in regard to Fruit growing, "when and where skill and success in pear growing are attained, all other kinds of fruits may also be successful;" and so it may be said of wheat growing,—when and where high success is achieved in growing that grain there need be no doubt of success with other grains; all in all, wheat is our most important cereal, when considering both for home use and for exportation; its production, in perfection and large yield, will always be the pride of intelligent, ambitious farmers; wheat is everywhere the type and emblem of family food, except in cases of limited special localities and peculiar circumstances some other grain may be desired; yet that grain will always be the stand-by and chief reliance of the farmer, for his income and his personal sustenance. Wheat! wheat! splendid wheat! there's a charm and the ring of gold, in the very sound of the name.

Then, to be sure, every thing we can do toward improving the mode of culture—to enhance the yield and the quality—is of importance, and we should all strive for that end.

No matter how good the land is, a little salt applied to it will make it better; just as was once said of an old deacon, "no matter how good he is, a little charity will make him better." Salt not only enables the soil to give stiffer, sounder straw to stand up well, and cleaner, plumper kernels, but it does much to prevent the evils of insects, rust and smut. And no matter how clean and pure the seed-wheat is, soaking it a few hours in salt-brine, then rolling in plaster or lime will improve it, and make success more sure. There is no fact in wheat growing more certain than the benefits of salt and plaster.

During the past summer I visited many counties in the States of Michigan, Ohio, West Virginia and Maryland, with some other States, and took considerable notice of the wheat and other crops.

At one place in Genesee county, Michigan, I

saw three steam threshers at one time; I visited them, inquired what was the average yield so far of wheat? None of them reported less than twenty bushels per acre, some thirty and a few as high as thirty-five bushels per acre, and an average of twenty-five for the county was claimed on about 47,000 acres, giving $1\frac{1}{2}$ million bushels.

In Lenawee county, I stood at one point where I could see four steam threshers at work and hear others all at one time— I made several inquiries as to yield, and was told, as above, that it would be from twenty to thirty— assuring an average of 25 bushels to the acre on 52,000 acres, giving $1\frac{1}{2}$ million bushels, and found the kernel sound and plump, with no rust or smut, but grain of first quality. And the weather was such that all was gotten in, threshed and binned in good order.

I was also in many other counties— Monroe, Wayne, Washtenaw, Jackson and Oakland—and was everywhere told the crop would give a large average yield of good quality. And upon inquiring at Detroit, Toledo, Lenawee and other places, I was assured that the entire crop of the State would average at least twenty bushels, giving about 20,000,000 bushels for the whole State, against about 18,000,000 bushels last year.

The crop of oats is generally a fair average one, and nearly all has been gotten in good condition and the quality of grain good.

In consequence of protracted drouth, the corn crop will give only a moderate yield—the same with potatoes; but there will be abundance of all these for home consumption. And there is this satisfaction, that the weather, which has been partially detrimental to large returns of corn and potatoes, has been peculiarly favorable for safely securing the wheat and oat crops.

The crop of apples and pears in Michigan will be more limited than last year, in consequence of the trees having been considerably exhausted by being allowed to over-bear last year, which might have been avoided by judicious thinning-out while the young fruit was one-third or one-half grown. The same may be said in regard to Ohio; yet in both States the orchards presented some of those fruits; also Maryland and West Virginia. Only in limited sections at the West did we see many peaches or plums.

As a whole, we found the farmers in the Western States pretty cheerful and in a situation to make purchases and pay indebtedness to mechanics and merchants—to do which they ought to sell at once, and pay up, thus giving life and prosperity and activity to all classes of people.

While it is no doubt true, that the majority of farmers West get larger yield than those of Maryland, it is true that some get equally large yield in Maryland.

POTOMAC.

BEET SUGAR vs. CANE SUGAR.

WHAT THE NEW ORLEANS TIMES SAYS.

From three to three and a half pounds of brown clammy sugar is a miserable result from one hundred pounds of cane, which ought to have yielded seven pounds or more of the brightest and purest granulated sugar. And anybody who puts wrong notions into the heads of our planters, or who lulls them into deceptive dreams of false security, who obstructs their progress, or by desultory measures of ephemeral relief helps to cripple the financial resources of the people, is the worst enemy our sugar planters can now have.

The time, which might have been foreseen, when, if not entirely abrogated, the monopoly of sugar-making had to be divided amongst many is near at hand. There will be a Northern, beside a Southern, sugar interest much more rapid in its growth than anything which could be opposed to it; because:

There is an unlimited amount of capital at the disposal of the rising industry of beet sugar making, while we can scarcely hope to attract foreign capital hereafter.

The machinery for the manufacture of beet root sugar has reached a point so very near perfection—good beets yield from nine to ten per cent. of sugar—that compared to it our industry appears in its infancy, if not its dotage.

Beyond the protection, which all sugar producers in this country share alike, the beet root sugar industry is especially favored by Congressional legislation, in so far that all machinery can be imported free of duty.

The machinery for cultivating beets is so perfected, too, that even the cleanest and most careful cultivation can be given to them without an excessive amount of costly labor by hand.

There is an inexhaustible supply of the finest seed always to be had at short notice. The best methods of planting, manuring, gathering and storing the beet—all unsettled questions as far as cane is concerned—have been thoroughly studied and ascertained.

Any number of intelligent laborers can be had to work upon the comparatively healthy farms in the Eastern and Northern States. At the present low price of grain, Eastern farmers are compelled to look for something more profitable to cultivate.

BETTER THAN THE GOVERNORSHIP.—It is estimated that Dr. H. J. Glenn, late democratic candidate for Governor in California, this year has raised 1,200,000 sacks of grain on his ranch at Colusa county. This is equal to about 65,000 tons, or enough to load thirty-two vessels. The crop is worth about \$2,210,000. Dr. Glenn is a native of Augusta county, Va.

Analysis of Corn-Cobs.

We are indebted to Gen. LeDuc, Commissioner of Agricultural Department of the United States, for advanced sheets of his able annual report for 1879, and select therefrom the following:

A sample of corn-cob meal received from Henry C. Hallowell, Sandy Spring, Md., gave, upon analysis, the following results:

| | Per cent. |
|-------------------------------------|-----------|
| Water..... | 14.42 |
| Oil..... | .72 |
| Sugar..... | 2.62 |
| Zeim..... | 2.33 |
| Gum..... | 1.07 |
| Cellulose (soluble) and starch..... | 41.62 |
| Cellulose..... | 36.10 |
| Ash..... | 1.12 |

As will be seen from the above analysis, there are present several constituents in appreciable quantity of acknowledged nutritive value, while under the head of soluble cellulose and starch, constituting 41.62 per cent., we have a substance which in all probability, may undergo digestion and assimilation, but concerning the real function of which little at present is known, and repeated and careful food experiments with the live animal are needed.

It is, however, of importance to add that a large percentage of our best grasses consists of this same form of cellulose, which is not starch nor common cellulose, but a substance readily dissolved by weak acid solutions. There is but a small quantity of starch present, as is also true of our common grasses. The question as to the real food value of corn-cob meal is one frequently under discussion, and it is greatly to be desired that experiments be made and the results recorded.

From the above analysis it appears to be established that corn-cob meal, instead of being a worthless addition to corn meal, does possess a positive nutritive value of its own, and it may be that this value is very much greater than is commonly supposed.

THE CULTIVATION OF THE SUGAR BEET.—The *Journal's* correspondent, speaking of the duty on sugar says: In connection with this vexatious and important sugar problem it may be said that the Treasury officials are watching with interest the recent experiments in the cultivation of the sugar beet. A company is soon to be started near Wilmington, Delaware, with a plan capable of manufacturing one hundred tons of sugar daily, and if this and similar enterprises prosper, our custom revenues, one-third of which are produced from sugar alone, will be seriously interfered with,

Beet Sugar in Europe.

The Government offered large bounties to the manufacturers, and the industry thrived until the peace of 1815 was established, when the large importation of cane sugar caused a break in prices, which gradually fell off to 7d. This proved a disastrous blow to the growing industry, but under the fostering care of the Government it gradually recuperated, and in 1826 the product was 1000 tons. This growth was steady and large until 1875, when the product had reached the enormous sum of 450,000 tons. The magnitude of this product can be imagined when we take into consideration that the total amount of sugar imported into this country for 1878 was 737,781 tons. The estimated yield of beet root sugar for 1878 was 475,000 tons, but owing to some causes the saccharine yield of the root was unusually small, and the product was only 451,000. The total yield of beet root sugar in Europe is estimated at 1,211,000 tons, of which France furnishes 451,000, Germany 290,000, Austria 205,000, Belgium 80,000, Russia 150,000, and other countries 35,000. France and Belgium are the only countries that raise any surplus, the former producing 270,000 tons more than is necessary for home use, and the latter 50,000 tons.

The season for making sugar is only some five or six months, as the roots cannot be kept for a longer time. It is calculated that to be profitably worked a sugar factory must get the product of at least 500 acres, but with the latest improvements in machinery the product of 100 to 150 acres can be worked up profitably. Some of the larger works have houses established in various portions of the country from which they draw their supply, and the juice is extracted from the roots in these houses and carried to the main establishment, either through pipes made for that purpose or on portable railways.—*American Grocer*.

A SINGULAR VEGETABLE.—Mrs. Jas A. Skirven exhibited at the Kent County Fair, a specimen of California squash; not intended for competition. It is from two to three feet in length and nine to ten inches in diameter, and regularly curved. Its excellence is said to consist, in part at least, in the fact that while growing it may be sliced off in any suitable or convenient quantity and cooked, leaving the remainder on the vine for future use. It is, on this account a curiosity.—*Chestertown Transcript*.

A GOOD MOVE.—The farmers and sheep raisers of Cecil county, Md., have passed resolutions that all dogs running at large shall be considered at the mercy of the community.

Green Fallow Crops, Animal Manures and Commercial Fertilizers.

Dr. M. G. Ellzey, Professor in Agricultural and Mechanical College, Blacksburg, Virginia, is writing some able essays under the above titling, for the *Southern Planter and Farmer*, of which he is the stock editor. We think so highly of them, we regret our space will not allow us to publish them in full, but will make extracts from them occasionally. In the meantime, we give a communication to the *Planter and Farmer*, by T. L. Payne, Esq., of Chesterfield, upon the subject, in which he differs with the Doctor in some particulars, but "endorses the larger part of what he says."

Mr. Payne says: "The point of difference between the Doctor's theory and my own experience is entirely in the method of treating the crop intended for fallow, especially the pea crop after it is planted. The Doctor says plow under the crop when in bloom. I say allow it to mature and stand upon the land as long as possible. It is true, that a difference of soil would, perhaps, make a difference in the result. Indeed, I think it highly probable that upon very stiff clay land, such as abound in the Piedmont country and in the Valley, burying a heavy coat of green vegetation might be mechanically beneficial to the soil: but upon the light grey lands around Richmond, and indeed, all that section east of the Piedmont country, such a course would prove detrimental. Mr. Ruffin, in a very able Essay on the 'Pea as a Fallow Crop,' read before the Virginia Agricultural Society in 1854, and published in the collection of his essays, takes precisely the same position. He had been an advocate of the green fallow system until he accidentally discovered the advantage of permitting the crop to ripen, and by a series of carefully conducted experiments, demonstrated, beyond a doubt, that in his section (Tidewater) it was best to allow the crop to mature and be killed down by the frost before plowing it in. Like Mr. Ruskin, I was raised up to believe that all crops should be plowed under just at the time when they had reached their greatest bulk. But after repeated experiments, conducted under circumstances which could leave no doubt of their fairness, I have been convinced, against my own opinion, that it is an error. The reason given by Mr. Ruffin (I am writing from memory) is, that as nitrogen is the most valuable part of the pea as a fertilizer, the concentration of this in the seeds in a form that readily decays when buried in the cold, damp soils of Autumn, made the action of the pea more sure and prompt than if we had plowed it down earlier. While I agree with him in this, I am not prepared to say that this is the only reason (or, indeed, the chief one) why the pea will yield a larger amount of fertilizing material when permitted to stand until mature than if turned under when in bloom. It is a well-known fact—for which the Doctor can doubtless give the scientific reason—that in dense shades, such as is produced by a heavy growth of peas, the land is greatly enriched by some cause

beyond the improvement drawn from the atmosphere by the growing plant. Indeed, shade of any kind, even from dead substances, such as straw and leaves, will induce the formation of (some renovating material probably) nitrogen or some of its compounds, and rapidly increase the fertility of the land. Such being the case, it seems to me that permitting the growth to accumulate, and keeping the ground shaded from the hot sun of the latter part of the summer and early autumn, would prove most beneficial to the soil.

Another reason which suggests itself to me is this: The pea and clover plants in their growth send down a long tap root into the subsoil, and draw from depths beyond the reach of the roots of the cereals the mineral substances necessary for their full development. This mineral matter is brought up to the surface and left in the most available form by the decay of these plants. So long as the plant continues to grow, it is pushing its roots deeper and deeper into the subsoil, and drawing therefrom material for the growth and perfection of the succeeding grain crop. If, by remaining longer upon the land, the roots of these plants can penetrate even two or three inches deeper in the ground, they thereby lay under contribution an immense amount of soil which otherwise could yield nothing to the crop which is to follow. The suggestion of the Doctor that, by plowing in the crop at the time he advises, another crop may be raised upon the land the same season and treated in the same way, is hardly practicable, as every pea-raiser will know. Possibly it might be done on small, rich lots, but upon the lands usually sown in peas such a thing would be practically impossible nine years out of ten, and even were it practicable, it is not desirable. The great objection to the pea crop is its costliness. Even at the present prices of peas and labor, an acre of peas can scarcely be seeded for less than four dollars. The ground for peas should be broken early in spring or late in the winter, else when the period of seeding arrives (about the 15th of June) the land will probably be so hard as to render its proper preparation slow and difficult. These two plowings, with the cost of seed and getting them in, make the crop cost the farmer at least four dollars per acre. If we add to this another plowing and another bushel-and-a-half of seed, we will find the cost has exceeded the probable returns from the crop. But by permitting the seed to mature, and feeding the crop down with fattening hogs, we are almost sure of a return in pork equal to actual outlay for the crop, and the land, according to my experience, will be equally as much benefited as if the entire crop had been turned under. If the hogs remain upon the land while feeding, they will only remove from the field the fat which they accumulate, which being almost entirely carbon, is of no value as a fertilizer. The Doctor can tell us what a hundred pounds of fat pork is worth as manure. I have always found it very difficult to get as many peas seeded as I desired, owing to the fact that the seeding falls at a season when team and hands are very busy with other crops. This year I have tried seeding in corn, and where the corn was early and not too thick, I have found it satisfactory—the vines now (Sept. 15th) covering the ground and showing a good many young peas.

Another year I shall plant my corn as early as possible, and make the rows five instead of four feet apart, and I believe that in this way the cost of the crop will be so much reduced as to make its production almost universal. The crop would not be chargeable with anything except the cost of seed and sowing, as they are gotten in by the cultivator at the last working of the corn. Peas sown in this way cannot be relied on to mature for seed, and I would advise planting a few acres in drills on well prepared land for this purpose. I wish also to add that 100 pounds of superphosphate will double the yield of grain and facilitate the ripening from one to two weeks—a very important item where the saving of seed is an object. In conclusion, I wish only to add, that I am more than pleased with the Doctor's editorials upon this and other subjects, and have written these few dissenting notes only for the sake of bringing out the facts as they really are. Let other farmers who have had practical experience give us the benefit of it."

American Products Abroad.

The wonderful increase in the surplus farm products of the United States, and our consequent ability to export enormous totals of bread and meat to Europe, is alarming the political economists, the statesmen and the agriculturists of the Old World. No longer can it be said that the cost of living is less in Great Britain, and on the continent, than in America. Britain imported from this country in a single year \$50,000,000 of wheat, \$43,000,000 Indian corn, \$34,500,000 bacon and hams, \$10,300,000 of cheese, \$8,300,000 flour, \$6,809,000 lard, \$3,000,000 pork, salted, butter \$2,870,000, \$2,000,000 fresh beef, \$1,650,000 refined sugar, \$1,500,000 peas, \$1,400,000 canned and preserved meats, \$1,243,009 fruits, \$653,000 molasses, besides oats, coffee, barley and the like, or a total food supply of over \$171,090,000 from our country in one year.

Even in Ireland, which is devoted almost exclusively to agricultural pursuits, and where the marked tendency of farming is to pasture, the farmers finding it more profitable to breed and fatten oxen, sheep and pigs for the English market than to raise cereals, yet even there the competition of American beef all over Great Britain has ruined the Irish grazer. The Irish tillage farmer is also beaten on his own ground, just as the grass farmer is beaten. As to our supply of cattle, the business is yet in its infancy. In 1870 we had 28,000,000 cattle; no doubt next year's census will show a total of 35,000,000, while the improvement in character, quality and weight is equal to at least twenty-four per cent, more in numbers. Again, better feeding produces earlier maturity. Last year we exported 80,040

head of cattle of all kinds, of which nearly 40,000 cheap, grass-fed Texans, were shipped to Cuba. This number is small in comparison with the possibilities of our agricultural resources.

The eventual result of producing such vast quantities of cheap food in this country will be to attract thousands of skilled workmen from all parts of Europe, giving to the United States front rank as a manufacturing as well as an agricultural nation. Meantime, American manufacturers are crowding the products of the skilled labor of England, France and Germany in the markets of the latter. American slate wares have entered into active competition with the products of the Welsh and Irish slate quarries. American cradles for Irish babies and American coffins for the Irish dead drive Irish cabinet-makers to despair. The French and Swiss watchmaking interest is almost on its last legs, in consequence of the active competition forced upon it in every market in the world by our factory-made watches. American inventions and productions are everywhere entering, or preparing to enter, into competition with the peculiar productions of each country on its own soil. The future of this country is certainly bright with the prospect of abundant harvest, remunerative employment and a general revival of business interest—*South-ein Planter and Farmer*

For the Maryland Farmer.

POTATOES.

BY PROFESSOR ELSOM.

Messrs. Editors:—In our zeal to promote and develop the interests of agriculture, we are quite apt to overlook that most important of all arts, especially so far as our creature comforts and happiness are concerned, namely, science in the kitchen. For a number of years it has been our good fortune to live a considerable portion of the time among the farmers, and will state without modification that, generally speaking, our farmers' wives excel their city cousins in the art of cooking, paradoxical as it may seem, when we take into consideration the facilities enjoyed by the dwellers in the city for procuring information, but then as soon as a family moves to town a cook must be hired, and many a household has reason to regret ever leaving the farm for this reason more than any other.

For the express intention, then, of catering to the tastes of our friends, the farmers' wives we have lately conducted a series of experiments with potatoes, the results of which are briefly given in the following:

First of all, we will give the constituent elements of this vegetable, after which we shall be better understood. As is well known starch is the principal element and that which renders this food nutritious, but as will be seen, the per cent. of this element varies at different seasons of the year, for

instance, in 100 pounds we found of starch

| | |
|------------------|--------------------|
| In August..... | 10 pounds. |
| " September..... | 14 $\frac{1}{2}$ " |
| " October..... | 14 $\frac{3}{4}$ " |
| " November..... | 17 " |
| " March..... | 17 " |
| " April..... | 13 $\frac{3}{4}$ " |
| " May..... | 10 " |

From this it will be seen that the quantity of starch is at its maximum in the winter season. In the spring vegetation becomes active, and the buds begin to grow at the expense of the starch in the tuber. Hence, in consequence less esteemed for the table.

Potato starch, says Wall, agrees with the other amylaceous substances in its alimentary and diastical properties. Being devoid of nitrogen, it is of course inferior in the nutritive power to the flour or meal of the cereal grains, which contain vegetable fibrin, vegetable albumen, and gluten. But being readily soluble in boiling water, the potato yields several agreeable articles of food. It is often sold in stores under the name of potato flour, arrow root, (English) Brights Nutritive Farina, sold for food for invalids and infants, is nothing but a carefully prepared potato starch nicely scented, the substance sold as Indian corn starch is potato starch slightly colored blue, while Brights Universal Breakfast Beverage, I have found to be nothing but a mixture of *potato starch* and *chocolate*. Some are under various *nom de plumes*, potatoes are pretty generally diffused through our *menu*.

Chemically considered we find first citric acid, which deserves special mention, since upon it depends, in a great measure, the antiscorbutic property of this food. Baup says the potato yields sufficient citric acid to admit of its being employed in the preparation of this important and somewhat expensive commercial commodity.

Next we find Solanina, a vegetable alkali, possessing powerful narcotic properties; this has been detected by Otto in the buds and underground shoots of this plant. If potatoes are grown where they are not supplied with earth, the magazine of inorganic bases (in cellars for example), a true alkali called solanina, of very poisonous nature, is formed in the sprouts which extend toward the light, while not the smallest trace of such a substance can be discovered in the roots, herbs, blossoms, or fruits of the tuber when grown in the field, the most delicate tests of solanina, according to Otto, is iodine. If small pieces of this be added to a weak solution of solanina (as the sulphate) they become surrounded by a brown syrupy fluid, a watery solution of iodine also forms, with a very weak solution of solanina, a brownish color. Michaels, however, declares that the color

thus produced depends not on the solanina, but on the fatty acid of an alkaline calcareous sap contained in the potato. Solanina or other noxious principle if prerint at all, must be contained in very small quantities in the potato, or must be destroyed or removed by cooling, since, notwithstanding the universal employment of this vegetable, poisonous effects from its use are never heard of, or if they occur, must be exceedingly rare. Nauche asserts that the infusion or decoction of potatoes promotes the renal and biliary secretions, and effects the nervous system slightly. If the observation be correct, it would follow that the water, in which potatoes are boiled, extracts or destroys some noxious matter, and as both baked and roasted potatoes are likewise wholesome, it follows that heat alone is capable of virtually destroying the noxious principle if any exists.

We will look for a moment at the scientific principles involved in boiling. When they are boiled in water the albumen of the liquor contained in the cells and intercellular spaces is coagulated, and the starch grains absorb the watery portion of it, swell up, and distend the cells in which they are contained. The coagulated albumen forms irregular fibres between the starch grains, and probably, also, covers them with a thin film of albumen. Lastly, the cells in which the starch grains are contained, separate from each other. Potatoes in which these changes are complete are called mealy, while those in which they are only partially effected are called watery, doughy, soggy, or waxy. Potatoes, unlike the starch made from them, do not yield, by boiling, a mucilage or jelly. This arises, probably from the starch grains being enveloped by a coating of coagulated albumen, as well as by the membrane of the cell in which the grains are contained.

In order to render potatoes more palatable, they are usually boiled only so far as to make them soft without effecting their shape; and probably in this state they contain a larger amount of nutritive matter than if longer boiled. It can scarcely, however, that they must be more readily permeated by the gastric juice, and, therefore, more easily digested, if boiled until they begin to break down or are so softened as to be readily mashed.

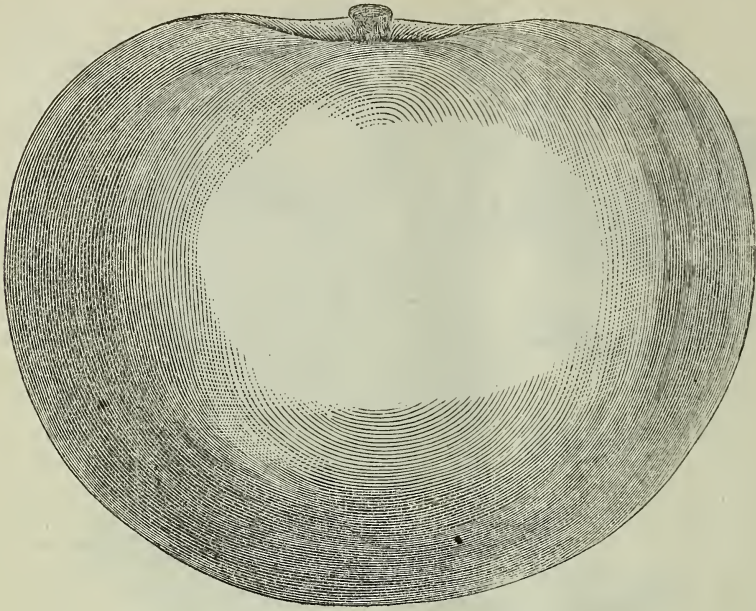
Hard and waxy potatoes must, for the same reasons, be less digestible than mealy ones; and new potatoes being less mealy are harder to digest than old ones.

(TO BE CONTINUED.)

Elsom's Laboratory,
Forestville, N. Y., Sept. 9th, 1879



THE "DOWNING" GOOSEBERRY.



"RED BIETIGHEIMER"

We are indebted to those distinguished pomologists, Messrs Ellwanger & Barry, of Mount Hope Nurseries, Rochester, N. Y., for the handsome illustrations and descriptions of the "Downing Gooseberry" and the "Red Bietigheimer Apple."

"RED BIETIGHEIMER—A rare and valuable German variety. Fruit large to very large; roundish inclining to conical; stalk short, stout, in deep cavity, calyx closed in large deep basin; skin pale cream colored ground, mostly covered with purplish crimson; flesh white, firm, sub-acid, with a brisk, pleasant flavor. Tree a strong grower and abundant bearer. This is one of the largest and handsomest apples, and worthy of extensive cultivation"

This apple would doubtless be a valuable acquisition to our list of late summer apples in the Middle and Southern States

"DOWNING—A seedling of Houghton originated at Newburgh, N. Y. Fruit large; two or three times the size of Houghton, whitish green; flesh soft, juicy, very good: Plant vigorous and prolific. Excellent for family use, and very profitable for market."

The gooseberry is a fruit which grows well every where and is a popular fruit, yet not generally cultivated as much as its great merits deserve. When green it makes delicious tarts, and ripened it is very acceptable as a fruit, or conserved or preserved. It is easily canned when green or ripe

and it makes the very best of domestic wines.—English farmers' wives have ever been celebrated for their gooseberry wine, which Goldsmith has made world renowned in his beautiful story of "Vicar of Wakefield." The objection to growing this valuable fruit formerly was, that it mildewed so badly it rarely ripened, but the prominent American varieties, such as Houghton's Seedling, the American and Downing Seedlings, never, or seldom mildew. They are as sure croppers as currants. The Dutch were the first to cultivate and improve the wild gooseberry, but England has brought it to its highest perfection, where it is appreciated as highly or more so than any other of the small fruits.

The gooseberry thrives best in a rather cool soil with a partly shaded aspect. It requires good soil, occasional pruning, and is better for being mulched in summer.

GREAT BRITAIN'S SHORT CROPS. — The latest advices from Great Britain more than confirm the previous fears and predictions of short crops. The crops have now been gathered and it is estimated by skilful judges that the yield of wheat, oats and barley is one-third less than an average crop, and that the loss to cultivators will not be less than \$125,000,000. In addition to the above, the loss on potatoes is calculated at \$75,000,000; on peas, beans and rye, \$15,000,000; on hops, \$7,000,000; on hay, \$75,000,000—a total loss of \$297,000,000 to the agricultural classes,—*New England Farmer*.

For the Maryland Farmer.

Large Raspberries

VARIETIES FOR PLEASURE AND PROFIT.

BY R. H. HAINES.

There are now so many new varieties of raspberries before the public as to make it somewhat difficult for a person who is not familiar with their merits, to make a proper selection. A number of these varieties are possessed of qualities of more than usual excellence, and upon soils that are suited to them will furnish some splendid berries. However, it should be remembered that while one variety of raspberry may grow finely on certain soils, giving many a rich repast of delicious large berries, yet on other soils it may do only moderately well. Because it does not succeed in some places, is no reason for supposing that it is an inferior variety, as some of the finest and most luscious kinds, such as the "Pride of the Hudson," and "Brinkle's Orange" only succeed in comparatively few localities. The proper way to do, if the best results and greatest enjoyment is to be derived from the garden, is to make a selection of a few plants of from six to ten, or even twenty varieties, and then afterwards to plant more largely of such kinds as give the best satisfaction. Though this may cost the purchaser a little more at the commencement, yet by following this plan one may get an insight into some of the enjoyments that may be derived from making experiments in fruits, and watching their different habits of growth, and will besides be able in the end to meet with greater success.

Cuthbert.—This is one of the newest of the raspberries, and is attracting about as much attention as any this fall. Thus far in this vicinity it has proved among the hardiest, and only been slightly injured even during the severest winters. The plants have now been tested on a variety of soils, and seem to be more generally adapted to different localities than are many varieties. The fruit is of large size, of a fine red color, and sufficiently firm for quite distant transportation. The plants are quite productive, yielding fine crops of berries of good quality.

Belle de Fontenay.—This is, I am now inclined to believe, precisely the same as the "Henrietta." At first I did not discover the difference, as the "Henrietta" grew with such vigor and produced such immense berries under the high culture given it. However, suspecting that the two kinds were identical, or that the "Henrietta" was a seedling of the other, I accordingly gave some plants of the *Belle de Fontenay* the same rich cultivation, which

caused it to produce equally as large and delicious berries. The foliage and canes under this treatment also appeared to be precisely alike. I think no less of what is called the "Henrietta" since making this discovery, as it still produces its beautiful large and luscious berries—some of them measuring even over three inches around—but I value the "*Belle de Fontenay*" more highly than ever now that I know its full capabilities. The plants have the merit of producing a fine crop of fruit in the fall, if the canes are cut off close to the ground, early in the spring, so as to cause a new growth of canes. Their bright red berries, though almost too fragile for distant shipments, are yet excellent for home use or near markets, as they are among the best in flavor.

Reliance, Turner, New Rochelle and Brandywine are among the hardiest and best of the twenty or twenty-five red varieties upon my grounds. Caroline, Florence and Brinkle's Orange still do best among the yellow varieties; while the new mammoth variety called Gregg, and the Davidson's Thornless, Doolittle and "Mammoth Chester" still retain the most popular among the black-cap raspberries.

Some years ago it was my custom to have all my plantations of this fruit made in the spring, but having repeatedly tried fall planting, and finding that I could get a much more vigorous growth the first year, if plants are set out in the fall, I accordingly now strongly recommend this time of the year for planting to those who may wish to enlarge or commence a plantation of raspberries. Usually from the 10th of October to the 10th of November will be found to be the best time, while at the South the planting may be performed nearly a month later. There are two methods that I employ in giving winter protection to these newly set plants. After filling in the soil, having placed the manure near the surface of the ground, I have some of the canes cut off from four to six inches above the ground, and as winter approaches, "hill up" the soil six or eight inches high so as to completely cover them. In the second method the longer canes may be bent over and covered with three or four inches of soil, in the same way that older plants, that are tender, are protected, leveling the surface off again in the spring. The first method of "hilling up" the soil, but without cutting off the tops, is also a safe and sure method of protecting newly set fruit trees and currant and gooseberry bushes.

A cucumber 6 feet long and 9 inches around was shown at the fair in Schoharie county, N. Y.

For the Maryland Farmer.

Quince Culture.

I wrote you an account some time ago of my method of success in the cultivation of this much-neglected fruit. I want now to emphasize all I then said, by giving the result of another year's experience in the same line of culture; for I am fully satisfied of several things of much importance to all who are willing to take the pains necessary to succeed.

First, be sure to propagate from cuttings of vigorous and healthy trees; the best are from wood matured by two or even three year's growth. I call attention to this fact of my experience, because not in agreement with the received notion, that last year's growth is most desirable for the cutting from which to propagate. Quince trees so raised from cuttings give certainty as to the kind of their fruit, will come to sufficient maturity to yield a harvest much sooner than from seeds. My trees last year bore on an average half a peck of extra fine quinces, only five years from the cuttings. There was one tree I remember counting forty-seven quinces on, when thirty-three filled a peck measure as long as they would lie on and the largest weighed ten ounces.

This year the average yield is very nearly a peck, and the largest number on a tree is eighty. The size is so very large too that I sold 150 of the best of them by the count as oranges and lemons are sold; and the next size as high as two and a half dollars a bushel, and right here where I raise them, when at the same places of sale common quinces are only bringing two dollars a bushel. Think of a dollar's worth of quinces off of one little tree, not much higher than my head, and only six years from the cutting; and that I have just realized. The crop from twenty-three trees eight feet apart each way, planted quincunx, and with interlocking branches (they need more space, say ten or twelve feet), comes to thirteen dollars and a half; an average of over fifty-eight cents to a tree. Out of three bushels last year there was a half a bushel of small and specked fruit against a peck this year in five and a half bushels.

I will add as an item of special interest that four of these twenty-three trees have lost nearly one half their size by the parts cut off by blight. I am now well convinced that the only cure for quince blight is the knife (and for that matter I might include the pear and apple trees). I cut very vigorously, and keep at it. Some of the largest quinces were on a little tree that lost

two-thirds of its size from what was cut off by blight last year. Two trees I rooted out entirely and have filled their places with new trees.

On what was a cutting in 1878, cut back to within six inches of the ground last spring, I have now four branches, two of which measure just five feet, the others but little less.

W. W. MEECH.

Osage Orange Hedges.

This beautiful, long-lived and secure fence forms a prominent feature in the scenery of Kent county Md., where there are miles and miles of this hedge, chiefly along the roadsides and forming farm boundaries and enclosures for orchards. There are many great advantages that hedges kept in good order, have over wooden or stone fences, the chief of which is, it is a sure protection against stock and dogs. A lot surrounded by a prime hedge of orange, with a secure gate, is a safe place for sheep, and secures them from their great enemy—the vile sheep killing dog. Of Osage Orange Hedges, Mr. Meehan thus speaks in the Gardener's Monthly:

"Discussions are still going on as to whether Osage Orange is cheaper than wooden fences. That depends. If wood is abundant it may not be. Some talk of the plants 'robbing the earth for ten feet on each side, so that nothing will grow.' This shows that the hedge has been badly managed. The writer has a hedge twelve hundred feet long, which admits of cropping to within three feet as well as any where in the field. It has never cost the tenth part of what a wooden fence of any kind would have cost; but it costs about \$2.50 a year to trim and keep in order; and in this annual care perhaps a wooden fence has the advantage. Still in this part of the world the cheapest kind of a wooden fence would have cost \$120, and the annual interest of this even at 4 per cent. would have been more than the annual cost of the Osage Orange.

A well kept Osage Orange hedge is not a nuisance, nor is it expensive; the one that robs the ground for ten feet away is quite another thing."

Mr. A. M. Purdy in his Fruit Recorder, says:—"It may not be generally known that apple-seed sown in the fall where a hedge is desired in four or five years forms an impregnable hedge. They should be clipped back two or three times with a knife or hedge shears, to grow low and stocky."

History of the Maryland Agricultural and Mechanical Association.

CHAPTER XV.

Dr. Stewart read his reply to the views of Prof. Booth, as set forth in the last chapter. Dr. Humphreys made an excellent report from the Committee on Agricultural Education. The report not only advocated extension of education, but particularly the education of farmers for their pursuits, and incidentally alludes to the important cares devolving upon the tillers and owners of soil, among which he alludes to, tree culture in these prophetic words:

"But, another of the farmer's cares, never to be out of mind, is, for his trees; under which, he has the same need of tasking all the stores of his own knowledge, and of soliciting the help of scientific men. Our country is so vast, and so well supplied that we do not as yet, realize all our obligations, in regard either to our fruit or forest trees. Our abundance blinds us to our dependence on God, and to our neglect of the agency of man. We ought to save what forests we have from premature decay; and to foster a new growth of timber and of ornamental trees. It is as needful to study this part of our culture, as it is to protect vines, and grains, and fruits, from disease, and from their natural enemies; or to defend existing crops from the ravages of insects. Shall we leave coming generations to provide substitutes for themselves for the most common trees of the woods; or by a prudent forecast and watchful cultivation, shall we convert even deserts into fruitful fields; kill noxious worms and bugs; and change them into manures, to produce fruits, instead of destroying them? The oldest fable known to man, and the most beautiful, is that of the Trees. Let us take as much care of the trees, as Jotham made them take for themselves, in minding their proper business; for, our resources are not inexhaustible, unless we are vigilant to repair the necessary and constant drains which are made upon them. In one word, we must do what our sister states have done, if we wish to keep pace with the age, in our political and social progress. Unless we design to depend upon their scientific schools, which even now, are drawing great numbers of students from the West and the South, to the East, we must open schools of our own."

Mr. McHenry moved that the fair for 1854, shall commence on the first Tuesday after the tenth of October, which was amended on motion of Mr. Earle, to read "take place on the first Monday after the last Saturday in September."

On the next evening, after some routine business was gone through, a general election of officers was then in order. It was with the utmost difficulty, C. B. Calvert, Esq., could be persuaded to accept the office of President again. He was elected on motion of A. B. Davis, Esq.,

by acclamation. He declined in gracious terms. He was again elected unanimously, and with strong emotion, said:

"Gentlemen, I arise to say something, but I hardly know what to say. I have refused, so peremptorily, to accept the office of President of this Society again, that I hardly feel at liberty to do so. But you have insisted on it, insisted on it in spite of my remonstrances, and I cannot continue to refuse. I will make one compromise with you. I will accept the office if each one of you here will take a memorial, and promise to do your utmost to obtain subscriptions for the Society during the coming year. Every man of you who voted for me here to-night must do this. On these conditions I will accept the office, but on none other. We have been in operation for several years, but for each successive exhibition have been compelled to beg money to pay the premiums awarded by our Committees. Now, this is not all we have to do. We have other duties besides holding Fairs and awarding prizes. Those grounds are not ours. We want a place to call our own. Is it not a shame that the great Agricultural Society of Maryland, Virginia, Delaware and Pennsylvania, has not a place of her own on which to hold her exhibitions? We have been in operation six years, but you have to beg money to defray the expenses of our Premium list. Is this not a shame? Now, then, gentlemen, you have heard my conditions, if you will comply with them, I will again accept the Presidency, but on no other terms."

As soon as Mr. C. had concluded, Mr. Crockett, of Somerset, moved that every member put his name on a paper to obtain subscriptions to the Society; which was concurred in, and the members crowded around the stand to sign their names in signification of their readiness to comply with the terms which had been proposed by the President.

On motion of Mr. Samuel Worthington, of Baltimore Co., the Secretary was directed to have subscription papers, with the above recommendation, printed, and sent to each member.

Mr. Goldsborough moved that the condition of the acceptance of the President's office by Mr. Calvert, be also inserted, which was adopted."

It may be well to mention the fact that the committee on heavy draft horses, at this annual meeting, recommended the Society to award a special premium of \$30 to J. Howard McHenry, for his imported Percheron mares, "Snowdrop" and "Lily," highly commending his public spirit in making the first importation of this celebrated breed into Maryland. Thus we learn the fact that the first importation of Percherons was made by Mr. McHenry.

A farmer living near Sykesville, Md., raised a brood of five young crows this year, and two of them are perfectly white. They differ in no other respect from their black companions.

Chew Jackson's Best Sweet Navy Tobacco.

THE MARYLAND FARMER,

A STANDARD MAGAZINE.

DEVOTED TO

Agriculture, Horticulture & Rural Economy.

EZRA WHITMAN,

Editor.

COL. W. W. BOWIE, Associate Editor.

141 West Pratt Street

BALTIMORE.

BALTIMORE, NOV. 1, 1879.

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These articles we warrant to be first-class.

TO ADVERTISERS

The large circulation of the Maryland Farmer makes it one of the best mediums for advertisers of all classes. Its circulation will be largely increased by our reduction in the Subscription Price, and hence add to its advantages as a medium for advertisers. The terms of advertising will remain as heretofore.

The Maryland Farmer will be read this year by more Farmers, Planters, Merchants, Mechanics and others interested in Agriculture, than any other magazine which circulates in the Middle or Southern States, and therefore is the best medium for advertisers who desire to extend their sales in this territory.

☞ We call attention to our Reduction in Price of Subscription.

☞ Read in the advertisements for this month our 13 Reasons Why every Farmer should Subscribe for, and every Business Man Advertise in the Maryland Farmer.

DR. KENDALL'S valuable little book on the horse and his diseases, can be had at our office or sent by mail on payment of 25 cents.

GRAPE GROWING, ON THE SINGLE POLE SYSTEM, OR HOW THEY ARE CULTIVATED ON THE UPPER RHINE VALLEY, by A. H. Hofer. A treatise every grape grower should have. Price 50 cents, at our office or sent by mail postage paid.

☞ Our friends can do us a good turn by mentioning the MARYLAND FARMER to their neighbors, and suggesting to them to subscribe for it.

YOUNG MEN!

It is an easy way to make money by getting subscribers for THE MARYLAND FARMER. Send to cents for Specimen Copies, and ascertain what Liberal Commissions we will allow.

TO OUR SUBSCRIBERS!

The reading matter in the MARYLAND FARMER will never be lessened by advertisements. We feel called upon to make this statement, as the large increasing circulation of our paper *naturally* increases the amount of advertisements, therefore we wish to say most positively to our subscribers, that the reading matter in the FARMER will always contain not less than 32 full pages monthly. and often 36 to 38; and should our advertisements reach 100 pages, it will not lessen the reading matter, but likely to increase it. We feel indebted to our correspondents for their largely increased interest in the FARMER, and we are sincerely thankful for the promptness of our subscribers in renewing their subscriptions since the commencement of the year 1879.

A LIBERAL OFFER.

Persons who subscribe now will receive the Farmer the balance of the year FREE, making 14 months for \$1.00

FOR A TRIAL.

The balance of the year, viz: October, November and December, will be furnished for 25 cents cash. These numbers will be perhaps the most interesting of all others for the year, as they will embrace reports of Fairs in this and other States, and a variety of articles by correspondents on vital agricultural subjects, as well as the substance of addresses delivered at the annual meetings of agricultural and horticultural societies.

UNUSUAL. — Mr. Enoch Pratt, of Baltimore, gathered a second crop of fine Strawberries this season from the same patch, at his country seat, Tivoli, on Woodbourne avenue. Mr. Pratt's success is attributable mainly to high culture and skill under the influence of the late remarkable spell of lengthened summer weather. We are a little curious to see what effect the two crops in one year will have on the bearing of the vines the next year. The peculiarity of the late season, is shown by the fruits in Maryland producing second crops. Mr. Barnsley, near Hanover, Anne Arundel county, Md. had a second crop of raspberries.

ATTENTION!

As the year is drawing to a close, we would feel under much obligation to our subscribers who are in arrears to pay up promptly and renew, *upon the cash system*, their subscriptions to the MARYLAND FARMER for 1880.

When we reduced the price of subscription, *if paid in advance*, for 1878, it was with the expectation that during the year, all, or nearly all, of our subscribers would sustain our effort by paying up arrearages, and thus enable us in 1880 to furnish a first-class agricultural and house-hold Journal for the small sum of one dollar in advance per year.

Many of our friends nobly complied with our request, but there are others, we are sorry to say, have failed to respond, and hence we are compelled again to appeal to their individual sense of justice to settle promptly their several accounts, and renew for 1880 by payment of \$1 in advance.

We should regret very much if there be any one who takes the FARMER should be dissatisfied, but if any body is, he can order the Journal stopped on paying what he owes. The individual amounts are small, but aggregated, these several sums make a large sum to us. To this aggregate we must look to enable us to pay for the large quantity of paper, the printers, the binder, mailing with postage paid, besides pay us for our time and labor and money expended in procuring illustrations and reading matter.

We are sure if each delinquent will view the matter in the only proper light, that of "doing unto us what he would have us do unto him," he would respond cheerfully to our just and honest demand. We have labored for years to bring our Journal up to its present high standard, and we have the satisfaction to know that it has increased yearly in its usefulness and attractiveness as a medium by which farmers and their house-holds derive edification and practical knowledge. We hope this appeal will be read and answered in the kindly spirit with which it is made, and that every subscriber, who will receive his bill in our next number, (December) will forward promptly the amount of his indebtedness, including \$1 for the year 1880, that thereafter the "pay in advance system" may be safely adopted.

All of our prompt subscribers and those who have thoughtlessly allowed their bills to run for years, have on paying up, expressed their full approval of our effort to get into this system which has proved so satisfactory to publishers and subscribers. It should be borne in mind that only those who pay arrears or in *advance* receive the benefit of the change in price of subscriptions, our terms being \$1.50 per year. If paid in advance only \$1 per year.

Agricultural Shows.

It is gratifying to be able to record the success which has attended the various annual fairs over the country and particularly in our own State,—most of which we have personally seen, and we are forced to the conclusion that times are greatly improving, that a deeper interest is felt in agricultural pursuits, and that the farming interest is once again becoming prosperous and labor remunerated.

We have two suggestions to make to those who have the management of our county fairs. The first was forced on our mind by our suffering with the heat so much at some of the fairs we attended this year, while our sensibilities were severely taxed on seeing how the fine stock seemed to suffer—the fat cattle, sheep and hogs especially—exposed as most of them were to the glaring rays of the sun with no counter-cooling breeze. This we think can be easily remedied by planting quick growing shade trees in rows before the open sides of the pens, and in groves about the grounds where they would not interfere with the view of the track performances. This would add both to the beauty of the grounds and confer the comfort of shade to the crowds of people on a hot day, and afford some protection from a passing shower of rain.

Secondly, while we like the plan of having the agricultural machinery, carriages, etc., placed in the circle within the track, yet it is attended with great annoyance sometimes to the exhibitors of machinery and to those who are examining or wish to examine the implements, when they happen to be on one or the other side of the track, and have special or pressing reasons for changing their locality just when it is forbidden to do so, for public safety, during the trials of speed. This we think could be avoided with no great expense by throwing over the track one or more high bridges, which could in no possible way interfere with the race performances. A guard could be placed there to see that no one was allowed to stand on the bridge or to cross at the moment the horses were close to the same. They might be only used while the crossing of the track was forbidden, and at no other times during the day,—being made solely for the accommodation of persons who were desirous to cross from one side to the other, while the track was being kept clear.

The Kent County Fair was a greater success than ever before. Of Montgomery and Harford county exhibitions, we have before spoken, and Alleghany Fair we learn was also highly creditable.

The Fair at Winchester was one of the finest and most satisfactory that has been held there for

years, although we learn the number of visitors was large, but not what was expected or as ought to have been, in justice to the variety and value of the articles exhibited,

The *Winchester Times*, in its report of the fair, says the show of stock was excellent; the cattle very fine, though the Short-horns of Mr. Long, of Kentucky, and the Herefords of Mr. Merryman of Maryland were much missed; the sheep were many and excellent; the hogs were not many but very superior, and that the horse exhibition was splendid. Of the Implements it says:—"The display of agricultural implements and machinery was a notable one, the large space allotted to them being almost filled. Shoemaker & Griffith, of Winchester, were the largest exhibitors. Their display embraced every thing, from a traction engine to a corn planter—threshers, reapers, binders, plows, steam power, and a wind mill, which struck us as being an appliance which is destined to come into general use, on account of its cheapness and utility.

E. Whitman, Sons & Co., of Baltimore, were also heavy exhibitors, and their display attracted much attention. They made a number of sales."

THE FREDERICK COUNTY FAIR.—This was the best and largest fair we have ever seen on these well known fair grounds—where the annual fairs have always been a success. The weather was favorable, although very warm, and the great variety of stock, farm and house-hold productions and many other attractions brought out daily great crowds, computed on one day to be fully 20,000 people present at one time.

One of the most striking and worthy attractions on the ground was that of the Bazar, fitted up by the "Ladies of the Confederate Memorial Association," where were dispensed by fair hands of lovely women, the refreshments so delectable to the hungry and the thirsty. Their object being highly meritorious, their expectations were more than realized. From the corn and cob mill, elegantly gotten up, and presented by Messrs. Whitman, Sons & Co., of Baltimore, they realized \$56. The great feature was the voting for a huge cake, donated, to be awarded to the one of three ladies named, who should receive the largest number of votes at 10 cents a vote. After a very friendly, animated and even exciting canvass, the polls were closed, it was announced that 2,321 votes had been cast, of which Miss Fannie Brown received 1,165 votes being a plurality of nine votes over her two charming competitors. The spirit with which this feminine contest was carried on, and the result acquiesced in, was a bright example for our stalwart politicians to imitate, and met with hearty commendation from all who were spectators, whether interested or not, of the beautiful scene that was presented at the moment when victory was announced to the fair recipient.

Live Stock Register.

Weaning Colts.

If the colt has been handled as it should have been, it has already learned to eat, and, when taken from the dam, the food supplied should be of such a character as to perfectly supply the place of the milk which has heretofore been its chief dependence. If the foal is young, or in thin flesh, it will be well to give it a liberal supply of cow's milk—which it will readily learn to drink—as there is nothing which will so completely supply the place of the milk of the dam as this. Indeed, it will be well in all cases, where from lack of an abundance of milk of the dam, or from scanty nutrition of any kind, the foal is low in flesh, to early supply the deficiency with a good allowance of cow's milk in addition to what it gets from the dam. In such cases it is best to use new milk until the foal becomes accustomed to drinking it; but very soon skim-milk may be substituted. The effect of such a ration upon the growth and condition of the foal is wonderful, and in all cases where the foal is likely otherwise to winter low in flesh, we cannot too highly recommend its use. A quart of milk morning and evening, in addition to the grain ration, will be quite sufficient; and if it be sweetened a little at first, the colt will take to it all the more readily, as the milk of the mare is much sweeter than that of the cow.

Oats, ground or unground, constitute the very best grain food for a colt. We prefer to have them ground; and, as cold weather approaches, we recommend the addition of about one-fourth the weight of corn-meal, which helps to lay on fat, and materially assists in keeping up the animal heat. A little oil-meal—say a pint a day—may also be profitably given, with the oats, for some time after weaning.

When the colt is to be taken from the dam, it should be tied in an adjoining stall, with the partition so open that they are in plain view of each other, and the food of the mare should be reduced to a very small ration of dry oats and hay. When her udder becomes so full as to cause her uneasiness, a part of the milk should be drawn off, but she should not be milked dry. This first milking may be done by the colt itself, but afterwards it should be done by hand, as the milk in the drying-off process soon becomes unfit for the colt; and, besides, the drying-off will be more speedily accomplished than when the colt is occasionally permitted to suck. After the milk has entirely dried up, the mare and her foal may be separated,

and she may safely be turned out to grass.

As soon as the mare and foal can be separated, the foal should have the run of a good pasture, as there is no food better than grass, no medicine so good as exercise, and no exercise so profitable to young animals as that which may be taken just when they feel like it. A good, warm stable should always be accessible, so that they may be protected from storms. The idea that "roughing it" the first winter makes a colt more "hardy" is all nonsense. The true theory of raising horses, is a well-bred and sound parentage, and then plenty of feed, abundant exercise, and protection from storms and extreme cold, in well-ventilated, well-lighted stables, for the produce.—*National Live Stock Journal, Chicago.*

The Pig.

Black or flesh-colored pigs are freest from skin diseases in hot climates. The choice is practically between the Essex and Berkshires for males with which to improve the native stock of hardy grubbers of the root-or-die variety. Those who have tried the former are delighted at first, but after a few years begin to recall their longing the lean hams and slim but solid and flavorful bacon of the old race horse breed. The trouble with the Essex pigs for the South is that they are the eat-and-sleep to sleep-and-awake-to-eat kind, and their grades are, of course, like them. The side fat is superb, and so is their leaf-lard, and so far the breed is all that could be desired; but the ham and shoulders are too fat for profit, and the ham is not marbled with fat like the Berkshires. These (the Berks) are more wide awake, less easily controlled, but good foragers. Their grades are a wonderful improvement upon the original stock, may be made very fat, and yet the proportions between the fat and lean hams, shoulders and side pork or bacon, is such as to preserve the excellencies of the meat. The hams are large and rich and juicy, with diffused fat. Berkshires are not so easily fattened when penned, and systematically fed as the Essex grade; but they will take much better care of themselves in the woods, and when penned or fastened for fattening, may be finished off with half the feed the "original pikes" would require.

With many Northern and Western breeders the Essex is a more profitable pig than the Berkshire, because his nature leads him to take little exercise, so that all he eats goes to his flesh and fat. Respiration, which, if rapid, reduces fat greatly, is with him never accelerated by moving about, and with plenty of feed the sole burden is to digest it. This breed is pre-eminent among the black breeds and excelled by none as fat producers.—*American Agriculturist.*

What the "Tenth Duchess of Airdrie" has done for her owner.

One of the most remarkable cows on record is the "10th Duchess of Airdrie," owned by the Hon. Mat. Cochrane, which has just given birth to her ninth calf, a red heifer, to be named the "8th Duchess of Hillhurst," by 3rd Duke of Oneida. Of the 10th Duchess and her daughter's calves, Mr. Cochrane has sold the following animals at the prices named: In the winter of 1875 the bull calf, 4th Duke of Hillhurst, at \$7,000; at public auction in Toronto, June 16th, 1875, the bull calf, 5th Duke of Hillhurst, two months old, at \$8,000, and the heifer Airdrie Duchess 5th, eight months old, at \$18,000; at auction sale in Toronto, June 14th, 1876, the cow Airdrie Duchess 2nd, at \$21,000, and the heifer Airdrie Duchess 3rd, at \$23,600. In August, 1877, privately, the heifer 6th Duchess of Hillhurst, at \$12,000; and at public sale at Bowness, Windermere, England, September 4th, 1877, the heifers 3rd Duchess and 5th Duchess of Hillhurst, at 4,100 and 4,300 guineas each, or \$20,500 and \$21,500 respectively; making a total of \$131,600 for eight animals sold. He has still in his possession, besides the 10th Duchess, Airdrie Duchess 4th, 7th Duke, and 7th and 8th Duchesses of Hillhurst, five animals, and has lost four animals by death. The above result has perhaps never been equalled by any one animal at the same age. In December, 1874, an offer of \$25,000 for the 10th Duchess was refused, and the same for her daughter, Airdrie Duchess 4th. Since then the old cow has brought three heifers and one bull; two of the heifers have been sold for \$33,500, and there still remain the bull, and the heifer just dropped, besides the dam, who will probably breed a number of calves yet.—*Nova Scotian Journal of Agriculture*

SHEEP RAISING.—Mr. Benjamin Hance, of this county, from 30 sheep kept on his farm, on the Patuxent, this year realized the handsome sum of \$254.50.

The lambs, forty-nine in number, sold for an average of \$4, making \$196. The old sheep sheared seven and a half pounds of wool each, which at twenty-six cents per pound, made \$58.50. The whole amounting to the sum above stated.

The above facts show how profitable sheep raising may be made, when they are carefully cared for, and the highest prices had for the lambs.—*Calvert Journal*.

THE MARYLAND MODEL FARM.

[Continued from page 319.]

"The barn at Hayfields is a large stone building, having at each end a wing separated from the main building by square courts around which and along the south side of the barn are ranged the stables for the cattle. In the first one stood a row of ten fine milch cows, beautifully uniform in color and size, the color the characteristic red of the Hereford breed, with white faces and rather short curved horns. Their bodies are of great size, supported on short, strong legs. To illustrate the value of the Herefords as milkers, two of these cows were pointed out which give 5 gallons of milk per day. In another stable were ten heifer calves under one year old, all showing the marks of blood and careful breeding. In the stable along the south side of the barn were sixteen cows and heifers, ranging in age from five months to eleven years. The latter is Giantess, a splendid specimen of the Hereford cow. She is eleven years old and had at her side her ninth calf, Prince Leopold. Here also was the Queen of Athens. This superb cow weighs 1,525 pounds, is six years old and will be exhibited as a fat cow at the coming fair at Utica, New York. Passing on to another stable was found the most interesting members of the herd. Standing in a box stall, majestic and solemn, was Illinois, the great Hereford bull, four years old. His huge body, covered with a sleek coat of dark red, and his massive head attached to a neck of almost colossal proportions, makes him a formidable animal to look upon. His face is white, as usual with the breed, and his forehead covered with the thick, short curly hair which distinguishes the male from the female. His rather mild eyes, which gazed at the lookers on with a decidedly gentle expression, bore out the claim of the Hereford to a kind disposition. Next to Illinois stood Prince of the Wye, the young bull recently imported by Mr. Merryman from the best herd in England. This fine animal, with his straight back, splendidly poised head, symmetrical body on legs even shorter than those of Illinois, and coat of a brighter red color, is esteemed by Mr. Merryman the best bull ever brought to this country. He was 19 months old on the 21st of August, 1879, and weighs 1,175 pounds, just after an ocean voyage. Great things are expected of him in maintaining and raising the standard of the herd.

Next to him were three fine young bulls, Duke of Connaught, 10 months old; Stonie Williams, 11 months old, and Prince Arthur, 14 months old.

These three youngsters go to Utica to be sold and are expected to realize \$500 apiece. In the next stall stood a specimen whose anatomy seemed to represent most satisfactorily the point the breeder would reach in the rearing of Herefords. It was an ox nearly all body, with short legs, a vast mass of beef with the smallest amount of waste—the best quality of beef and the greatest amount in the carcass. This fellow, whose age is only four years, weighs 1,675 pounds and will be exhibited at Utica as a fat ox, and he is truly such an one as a butcher would delight to carve. Mr. Merryman expects to make a fine exhibit at Utica, and will take with him for that purpose Illinois, 4 years old; Giantess, 11 years; Belle McAlpine, 7 years; Etta, 2 years; Princess Charlotte, 2 years; Princess Louise 2nd, 1 year; Laura, 1 year; Dorcas 2nd, 10 months; Dorothy Vernon, 5 months; and in fat cattle class Queen of Athens, 6 years, and Princess Victoria 2nd, 2 years. The aggregate of the herd is 52 head.

* * * * *

A PANORAMA OF THRIFT.

Passing from the barn back to the house, the proprietor pointed with some pride in a direction north of the buildings. A more charming panorama could hardly be imagined. Acre after acre of rolling meadow land lay in sight, bounded a mile away by a range of low, green hills, pierced by an abrupt gorge, through which could be seen a beautiful sweep of country beyond. Turning toward the east, the same green fields spread out toward a nearer and steeper range of hills, on the sides of which 10 young Hereford bulls, 10 well-grown colts and a flock of sheep grazed quietly. The proprietor remarked: "On that hillside I have placed a salt-lick. Every afternoon the stock grazing in that field come under my eye and can be counted." A noticeable feature of the landscape was the extent of grass land and here the whole question of revenue from stock and other sources came up. As before stated, Hayfields consists of 560 acres. Of this area about 80 acres are plowed each season. The balance yields the hay crop and furnishes pasture for the stock, the leading feature of the farm. In the last twelve months the sale of Hereford cattle have amounted to \$2,260 and \$1,100 more delivered or ready for delivery—in all \$3,360. The sales of sheep and of wool in the same time have amounted to about \$1,000. The yield of wheat, of which a limited amount was planted, has been \$650 and the hay crop for sale amounts to about 100 tons. With reference to this last Mr. Merryman said that, owing to the great fall in price from \$23 per ton a few years since to about \$12 or \$13 now, it was

necessary to study economy in the matter of transportation. In old times Col. Bosley delivered six tons per week. Mr. Merryman showed the reporter a weigher's certificate showing six tons delivered in one day in one load. To accomplish this a wagon was constructed especially, which is drawn by a magnificent team of six mules. Speaking of hay, Mr. Merryman remarked that if he were raising the same number of Short-horns instead of Herefords he would have had no timothy hay left to sell. The Short-horns require strong food like timothy hay, while the Herefords thrive on clover hay, which is not so salable.

MR. MERRYMAN'S SYSTEM AND AIMS.

Not only in the matter of direct revenue but in the careful preservation of buildings, implements and all property, is the net result shown up satisfactorily in the management of Hayfields. An old wagon was pointed out to the reporter, which was built by Charles Henry in 1845, and is still in use, a standing illustration of the wisdom of having plenty of good shedding and of putting everything under them when not in use. Mr. Merryman pursues no definite system of rotation of crops, everything being more or less subservient to the breeding of stock. He runs grass as long as possible, only breaking up when necessary, planting first corn, then oats and then wheat. A meadow is generally used for grazing two years without mowing before breaking up for corn. While using for pasture the sod is limed and this, with the constant droppings of the stock and the pressure of the hoofs affords all the manure necessary. About 1,500 to 2,000 bushels of lime are used annually, always applied on sod, 100 bushels to three acres. Following corn with oats he puts on the oat stubble manure, consisting of muck from the borders of ditches, plaster of paris and barn-yard manure, which is turned under for sowing wheat and timothy. While planting, 100 pounds to the acre of fertilizer of ammoniated dissolved bones is introduced through the drill. Where this last is used without other manure 200 pounds to the acre is sown broadcast and 100 pounds through the drill.

Mr. Merryman during the war found it necessary to lease part of his farm to tenants, but now he conducts everything himself, with the assistance of his son, Mr. Gittings Merryman. As the reporter withdrew, after receiving a kind invitation to come again, he could not but ruminate over all he had witnessed. The scene just left presented without doubt the happiest, most healthful and the manliest phase of American life. The master of Hayfields presents a type of manhood and a mode of living, the emulation of which by the youth of America would promote more than any other cause

the moral and physical welfare of this country. The same system which pervades the management of the farm also characterizes the government of the household. The same solicitude which induces the giving of proper food to his stock, also guides him in furnishing proper healthful food for the minds of his children. His home is crowded with the resources for healthful mental and physical recreation. The hand that holds the reins takes care not to draw them too hard, and no one, who has ever enjoyed the privilege of a visit to this charming family circle, could fail to remark the genial sunshine which pervades the atmosphere, reflected as it were from the joyous temperaments of ten children ranging in years from the grown man down to the tender years of childhood. The genial host had laughingly remarked that his children loved home; that he had made it his prime object to have home pleasant for them, the dearest spot on earth. His efforts had been crowned with success. Only one had ever flown the parents' nest, and when any of them ever left home their sole aim seemed to be to get back as soon as possible. As the reporter slowly wended his way along the shady road back to the hot and dusty city he naturally indulged in day dreams of a home for himself modeled after the one he had just left."

For the Maryland Farmer.

Harford County Fair.

The Sixth Annual Exhibition of the Harford Co. Agricultural and Mechanical Association opened on 7th October. There were 3,350 entries, as follows:—Horses and colts, 130; mules and horse teams, 5; Herefords, 8; Short-horns, 30; Devons, 7; Jerseys, 20; grade and native, 30; fat cattle, 6; herds, 6; sheep, 63; swine, 30; poultry, 88; factory products, 14; carriages, 18; saddle and harness, 2; boots and shoes, 1 case; agricultural implements and machinery, 80; seeds, 55; agricultural and field productions, 100; table vegetables, 160; butter, 40; bread, 80; cakes, 145; pies and custards, 42; dried fruits and vegetables, 26; fruit butter, 57; preserves, 263; jellies, 107; conserved fruits, 20; sealed fruits, 119; pickles, 117; wines, catsup, vinegar and soap, 190; hams and dried beef, 2; household, 43; fancy needle work, zephyr, 80; silk and cotton embroidery, 240; quilts, 42; plain needle work, 36; fancy needle work, 28; general fancy work, 120; children's department, 220; miscellaneous, 40; domestic machinery, 25; apples, peaches, quinces, pears, melons and pomegranates, 350; flowers, 48; discretionary, 90.

The display of agricultural implements and machinery was very fine, also the stock. The herds not belonging to our county were the justly celebrated herd of Herefords belonging to Hon. John Merryman, of Hayfields, and the Short-horns of L. H. Long, of Kentucky; the larger portion of which were purchased by some of the enterprising farmers of Thomas' Run and Deer Creek. I regret the Duchess of Mason, a splendid 3 year old cow, did not remain here.

The vegetable department was filled to repletion with some of the finest specimens of crisp and tender lettuce, giant cauliflower, large and fine egg-plants, tomatoes as perfect as pictures, overgrown pumpkins, and mammoth cabbage that would rejoice the heart of any lover of sauerkraut.

Fine samples of grain and grass seeds, from Pearl Millet up to huge ears of corn. One good feature in this exhibition was "products of the farm," consisting of all things eatable, raised on any one farm, grouped together. In this display (without doing injustice to anyone) I cannot speak too highly of the exhibit made by Joseph Parry, who had, of grain, grass seeds, vegetables and fruit, all that could tempt the eye or gratify the taste.

Next comes the fruit, apples, pears, peaches, quinces, watermelons, grapes and pomegranates. This was pronounced by many, the finest collection they had ever seen at any Fair, either County or State; one exhibitor, J. J. Michael, showing 35 different varieties of apples.

Then we go up stairs and look at the household department. If you are able to see anything except handsome ladies, you will find a large and attractive display of cut flowers, also many handsome and valuable ones in various stages of growth and perfection. Then comes bread, gilt-edge butter, rusk, cake, pies, custards, preserves, canned fruits, pickles, jellies, wines, &c., altogether enough to feed an army of boarding-school girls.

Still more of the work of woman's fertile brain and nimble fingers may be seen in the department of needle-work, there being enough of this, if spread out, to cover an acre of ground. In this line you would be likely find all things desirable, either for ornament or utility. Go where you would, something new, useful or ornamental would attract your attention.

On Wednesday, Hon. R. T. Merrick delivered the annual address, replete with eloquence and words of wisdom.

Too much credit cannot be given to the gentlemen who have composed the different Executive Boards since the organization of the Society, six years ago, as all have nobly done their duty with-

out compensation, showing an increase in the receipts of the Society from year to year, the grounds (25 acres) and improvements all paid for, and a handsome surplus now in the treasury. They have, however, been greatly aided by the citizens of the county, not members, who show a personal interest in each annual fair. Thus, the sixth exhibition has been the largest and best; the entries being more numerous, the receipts and attendance larger—that of Thursday being estimated at 15,000 persons.

Of the many beautiful sights to be seen, the one most grateful to the eye and heart was the healthy, happy children and handsome ladies,

"Where'er the eager gaze might reach,"

In graceful groups were seen,

Bright childhood's happy, sunny face,

And "woman's beauteous mien." M.

What is it?

Messrs. Editors:—I send you a sample of what was grown for seed, called East India Millet, sent as a premium to subscribers by a New York paper, claiming to be a respectable publication. Is it any better than our common cat-tail? J. Y.

Kent County, Md.

[The specimen sent is pure old-fashioned cat-tail, under good cultivation becomes what is now applauded and prized by many as "PEARL MILLET," lately introduced by Mr Peter Henderson, of New York.—Eds. Md Far.]

THE SECOND INTERNATIONAL DAIRY FAIR will be held in New York City, commencing December 8th, 1879, and continuing for two weeks, for the exhibition of butter, cheese and dairy cattle, and all articles in any manner connected with the dairy. Every person who is interested in the dairy business should make a point to attend, as a great amount of information would be gained by a personal inspection of the articles shown and by the instruction derived from the lectures and conversations of the eminent dairymen who will be present. The owner of a half-dozen cows would be more than repaid his expenses by the knowledge he would gain in regard to his business and of the new improvements in implements used in the dairy.

DEATH OF A CELEBRATED OLD MARE.—The Richmond *Whig* says: The celebrated racer and brood mare Nina died yesterday at Maj. Doswell's farm, in Hanover county, in the 32d year of her age. She was raised by Col. Bacon in South Carolina and came to Virginia about 1853. Nina was the dam of the celebrated race-horses Planet, Exchequer, Orion, Eola and other noted turf horses.

For the Maryland Farmer:

Potomac Fruit Growers' Fair.

HELD THIRD WEEK OF SEPTEMBER, 1879.

Messrs. Editors:—Though this fine affair has been pretty widely noticed in the papers, your readers may be glad to see a brief notice of it in your magazine.

The show of works of art, mechanism, needle-work, curiosity, &c., was creditable and interesting; but the exhibits of fruits and flowers were the great attraction and vast and useful. As usual, foremost among floral exhibits were those of John Saul, with his splendid crotans, dracenas, clocia, billbergia and others. He also had a fine show of pears. Mr. Fitz and the Dollins Brothers, of Albemarle, Va., made fine shows of fruits. Ellwanger & Barry, Rochester, N. Y., made the largest show, including apples, plums, grapes, pears and some others. John T. C. Clark and Wm. Fowler, amateur growers of the city, made beautiful shows of flowers and fruits; the former showed good English walnuts (Madeira nuts) of his own growing, which shows that delicious nut (*carya alba*) may be plentifully grown in this region. Col. Hiram Pitts showed the handsomest quinces, and some beautiful pears. Dr. E. P. Howland and Stacy Snowden showed varieties of handsome fruits. Many others also, too numerous to mention, made handsome exhibits; some from Maryland and from North Carolina.

G. F. Needham, of District of Columbia, exhibited fine luscious specimens of two varieties of fresh ripe figs, raised by him in this District. He says they can be raised in abundance in this region, with very little expense of winter protection.

The exercises of closing, on the last evening, were a feature of the fair, and very interesting, consisting of short speeches by members, among whom were Cols. Lafayette Bingham and D. S. Curtiss, Prof. Taylor, Dr. McKim, and others, and Col. W. H. Chase, chairman committee of arrangements, to whom a basket of flowers was presented. Receipts over expenses nearly \$100. Pretty good for the first show of the Association.

OCTOBER MEETING, 1879.

The regular monthly meeting was held at Talmadge, Tuesday, Oct. 7, the President. Chalkly Gillingham in the chair, and Dr. Howland acting as Secretary.

After routine business, Col. Chase, chairman of committee made a report of the results of the Fair last week, which showed over \$500 receipts and something over \$400 expenses—leaving a bal-

ance of about \$100 in the treasury; which was considered a fair success for the first annual fair of the association. The Secretary made his report. Remarks were made by Dr. McKim, Dr. Breed, Col. Bingham, and others, in regard to holding evening meetings for literary entertainments, and it was voted to have them each evening after the regular monthly meeting. All were requested to bring specimens of fruits and flowers.

Col. D. S. Curtiss, by some appropriate remarks, impressed upon the Society the useful lessons to be gained by this fair, in view of the fine *plums* and other fruits exhibited by Messrs. Ellwanger & Barry, particularly the plums shown by them—sound and beautiful, after the long transit from Rochester to Washington; and suggested that, by careful, clean culture and vigilant war on the curculio, good plums may be raised here as well as in many other places. Dr. Breed concurred in, and added further remarks to the subject.

Prof. Taylor made some remarks on *fungi* and microscopic operations, suggesting that, with much more confidence and energy in this matter, more benefits could be derived from the microscope. Dr. Moss spoke of the importance of unfermented wines.

The Secretary was directed to prepare a circular to be sent to horticultural and agricultural societies throughout the country, urging united efforts to have the agricultural department elevated, enlarged, and its usefulness increased—the circular to be submitted to the next monthly meeting for consideration.

POTOMAC.

ACKNOWLEDGEMENTS.—Our thanks are due to W. W. Stevens, Esq., President of the Kent County Agricultural Society, for a box of beautiful large and luscious pears and peaches, the last week in September. The peaches were splendid specimens of late varieties of cling, and of Heath open stone.

Mr. Gaddess of Howard county, sent us a dozen large roasting ears of the "Horse-tooth" corn, Oct. 5th, to show how nice this field variety is, if planted in June, for late roasting ears. It certainly was very fine, and compared favorably with the early sweet corn, and almost equal to Hyde's Egyptian. Mr. G. will accept our thanks. About the same time, Dr. Sharp showed us an ear of this field corn dry enough for shelling. It was a long ear 18 rows, and immense grains. His whole crop is likely to yield a large amount per acre. This corn is rather a late ripening variety, but is certainly a valuable sort, if planted early and well worked. We believe it will shell 6 bushels to the barrel. It is of fair weight, not extra heavy, but exceeds in the shelling, any corn we have known for years past. Will be glad to hear reports from others who tried it this year upon our recommendation.

Harford County Fair.

In compliance with the polite invitation of the officers of the Harford County Agricultural Society, we attended their sixth annual Fair at Belair, which held its meeting from the 7th to the 10th, inclusive. We were more than delighted; we were *astonished* at the great crowds—from 7 to 10,000 people each day—the fine stock and other substantial exhibits that were to be seen, and at the variety of attractions for the gratification of every body, and to suit every taste. The arrangements were complete and the general order perfect. From 10 A. M. 'till 4 P. M., there was not a moment's cessation in something going on to amuse or engage public attention. Beside the many side-shows, there were man, mule and horse, and chariot races, also hunting, walking matches, &c. We question whether there ever was a more successful and satisfactory Fair ever held in this country, as a County or State Fair. Richard Merrick, Esq. was the orator on the occasion, and fully maintained his great reputation as an able and eloquent speaker, taking for his theme "Free Trade," and handled the subject with power and effect, showing its intimate connection with, and its necessity, for the full development of agricultural progress and prosperity.

We confess that we have never seen at any Agricultural Fair, and we have seen a great many, so large and fine an assortment of fruits and vegetable products. The domestic productions and household manufactures reflected the highest honor upon the ladies of Harford. The exhibits were of great variety, and represented every department of house-hold manufacture, and they all seemed to be super-excellent,—the specimens of various sorts of bread, cakes, pies, jellies, pickles, preserved fruits, butter, meats, &c.—seemed almost innumerable. It was the greatest display in that line of female industry and skill that ever gladdened our sight. We wish we had room for particularizing.

This Society is certainly in a most flourishing state, and will continue to increase in prosperity as long as the whole people of Harford continue to manifest such pride and so deep an interest in its success.

During our visit in Belair, we made pleasant calls at the offices of those sterling Journals—the *Ægis* and the *Democrat*. In both these valuable weekly exchanges of ours, will be seen full and well written accounts of the Belair Fair.

FINE STOCK FOR PRINCE GEORGE'S COUNTY.—Dr. Jno. Peach, has procured a fine Hereford bull calf from Dr. DeCoursey, and Mr. E. G. Cotswold purchased one of the highest priced Cotswood Bucks at Genl. Meem's great sale in Virginia,

The Poultry House.

Chicken Cholera—Mode of Feeding.

A correspondent of the *Baltimore Gazette* gives an interesting description of the Montrose Poultry Yards of Mr. George O. Brown, of Baltimore Co., Md., and interviews Mr. Brown, who, among other statements, said:

"I never was bothered by cholera among the fowls but once, when I immediately stopped it by mixing their food with sufficient Jamaica ginger in the water to make it look milky. I have known cases where the fowls were so far gone that they could not stand, to be cured by giving a teaspoonful each of paregoric and saturated solution of alum water.

"In the morning I feed fowls one-third heavy middlings, mixed with two-third hominy chop or cornmeal, and always mix with boiling water, summer and winter; no noon feed, except an unusually severe winter day, when I feed table scraps or something of the kind; at night whole grain of some kind, a very little corn in summer, as it is too fattening and will make the hens stop laying if used liberally. Chicks, of course, are fed often while young several times a day. I keep each breed in a separate yard. A record is kept of every egg laid. I have several farmers breeding for me certain breeds."

Mr. Brown is good authority on all matters concerning poultry.

White Leghorns.

The White Leghorns are noted for their splendid egg-producing qualities,—for they are perfect laying machines,—their lively and vivacious dispositions, and the beautiful appearance they make upon the lawn; the brilliant contrast of their bright-red combs and wattles and purity of their white plumage; their bright yellow legs, and the lordly appearance of the cocks as they strut about among their many merry wives. We doubt if any variety of pure-bred fowl has been bred to to so great a degree of perfection, or is more highly prized by American breeders for their many good qualities. They are so easy to rear; feather up at such an early age—the young cockerels crowing at less than six weeks of age and pullets laying at three months. The quality and abundance of their eggs has made them a valuable acquisition to the poultry yard. They have been bred in this country, more or less, for twenty-five years, but for the past ten years there has been an unprecedented demand for them. We can recommend them to the amateur fancier as a good breed to begin with, being less difficult to breed to "standard of perfection" than any other variety.—

Fannie's Weekly.

Care of Ducks.

Ducks usually begin to lay in February, and if shut up at night most of their eggs will be saved; shut up all the time, they will stop laying. They will sometimes lay in nests prepared for them in their roosting house, but do not build nests of their own until nearly done laying and ready to sit, which is about the middle of May. Taking their eggs away will not prolong their laying. Ducks should not be plucked in winter, and those that are to sit should not be plucked until a week after hatching, as their long four weeks' sitting leave them weak. After that they should be picked as often as their feathers ripen, which can be told by picking a few from the breast; if there is no colored fluid in the end of the feather, it is ripe. The little gray ducks ripen their feathers once in four weeks; if not picked soon after this they begin to shed them, and pin feathers take their places, when separating them is very tedious. Larger breeds of ducklings do not ripen their feathers so quickly. The ducklings can be kept near the house better if hatched under hens, as ducks and turkeys are alike about keeping their little ones as far away as possible, until hawks or other animals catch them, when the old ones come home as tame as hens. Ducklings should be fed raw Indian meal dough, salted a little, once or twice a week. A dish containing a few quarts of water, and refilled when empty will do for them as well as a creek, but it should be fixed so that they can get out of the water easily, or they will drown. Do not confine them, and they will help themselves to sand and insects.—*Baltimore Live Stock Bulletin.*

THE MARYLAND HORTICULTURAL SOCIETY.—This society held its annual meeting on the 30th of September, and continued four days, at the Fifth Regiment Armory, Baltimore City. The exhibits were tastefully as well as judiciously arranged. There were several very rare and costly plants exhibited by amateur and professional florists. The cut flowers and floral designs were particularly fine. The number of fruit and vegetable specimens were not as large as might have been expected. The exhibition on the whole was highly creditable and deserved a much larger attendance of visitors.

THE WASHINGTON COUNTY FAIR at Hagerstown was a grand success. Immense crowds of visitors and a multitude of exhibits to fill each department of the great show. This exhibition proves the deep hold that agriculture has upon the people of Washington county.

LADIES DEPARTMENT.

Chats with the Ladies for November.

BY PATUXENT PLANTER.

AUTUMN.

"The dying leaves fall fast,
Chestnut, Willow, oak, and beech,
All brown and withered lie.
Now swirling in the cutting blast,
Now sodden under foot—they teach
That one and all must die.

This Autumn of the year
Comes sadly home to my poor heart,
Whose youthful hopes are fled.
The darkening days are drear,
Each love once mine I see depart
As withered leaves and dead.

But is it all decay?
All present loss?—no gain remote?
Monotony of pain?
Ah no! I hear a lay
The Robin sings—how sweet the note,
A pure unearthly strain.

And, of all flowers the first
Beneath the leaves in Spring shall blow,
Sweet violets blue and white,
So all lost loves shall burst,
In Sprink-like beauty, Summer glow,
In heaven upon our sight."

How beautiful are the above quoted words of the poet? how many sweetly sad recollections do they recall at this leaf-falling season!

The Autumn leaf-coloring came on this year more gradually than usual, owing to the protracted warm weather in October—which was truly summer encroaching upon Autumn—that brought forth second crops of small fruits, and peach blossoms in plenty. The children had a rare season for Autumnal wanderings in the woods, gathering nuts and late blooming wild flowers. The natural love for flowers and brightly tinted leaves that most children have, is pleasant to see. Soon after the leaves began to color this fall, in my evening walks along that beautiful suburban road—Catonsville Avenue—I often met small parties of young folks leaf and fern hunting, and on one occasion a lovely little stranger complimented my love for the beautiful, by harding me a bouquet of fern and brilliant colored leaves, artistically arranged by her little fingers, saying, "I know you will like this—is it not beautiful," and the little beauty had vanished before I could learn her name or thank her as warmly as my heart desired. Another of my young friends—a handsome boy of eight years—gathered and arranged a fine bunch of flowers, late in Autumn, with a stately Dahlia in the cen-

tre, and sent it to "P. P." I mention these, to me very gratifying, little episodes in my dull life to show that there is a growing interest in flowers every where, and it indicates advance in the refinement of society. The cultivation of and fondness for flowers, and all things beautiful in nature should be a part of every child's education, because thereby the mind is elevated and the grosser feelings are chastened—the pure and beautiful is made to supplant or correct the impure and the vicious. It is the early surroundings of a child that often control the after years of the man. How often it is said, and with great truth too, when a man commits a great fault which he was deemed incapable of committing—"it is owing to his bringing up, he could hardly help it." Parents, therefore, should beware, and implant in the growing mind, sound principles, and help them to enjoy innocent pleasures, and foster their tastes for the beautiful in art and nature—botany and astronomy are bright pages in God's book of life.

Your fernery, window plants and conservatory should be arranged this month for the winter blooming and decoration. Do not keep more than you can well attend to. A few well selected and well kept plants give more satisfaction than a large number half attended to. Teach your children the names, botanic and common, of every plant you have, and their habits and requirements, and you will find they will become as careful of your plants as yourself;—this little information will save you perhaps many a grief—instead of having your flowers pulled or injured, the children will protect them in your absence, and soon learn to aid you in taking care of the flowers. Who can tell how much pleasure a weary sick child derives from viewing a growing plant, daily putting forth new blossoms. Therefore, cultivate flowers, and be generous in disposing of them.

RECIPES.

A TABLE ORNAMENT—Sew coarse flannel around a goblet with the stem broken off, put this shapely dome upon a saucer of water, wet the flannel and sprinkle over as much flax seed as will adhere to it. The flannel will absorb the water from the saucer, which should often be replenished. In about two weeks the flannel will be concealed in a beautiful verdure, which will vie with any table ornament.

PARTRIDGE PIE.—Line a pie-dish with a veal cutlet, over that place a slice of ham and a little salt and pepper. Pluck, draw and wipe the partridges; cut off the legs at the first joint, and season them inside with pepper, salt, minced parsley and a small piece of butter; place them in a dish and pour over them some stock; line the edges of the dish with puff paste, cover the same, brush it over with the yolk of an egg, and bake for one hour.

SPICED FRUIT.—To seven pounds of fruit, take three pounds of sugar, one pint of vinegar, cloves, mace, and cinnamon to suit taste; sprinkle the sugar over the fruit; let it stand over night, then boil juice; vinegar and spice fifteen minutes. Put in the fruit and boil ten minutes.

LEAKY ROOFS.—Coal tar applied to a roof will cure it of leaking. Take an old broom, or tie rags on an old broom-stick, and use for spreading the tar over the desired surface. Of course, this will affect the water that falls on and runs off the roof, and if you desire to keep such supply of water, then do not use the tar.

THE well known verberna is much used in Spain as a cordial, taken either as a cold decoction, sweetened, or by pouring hot tea on four or five of the leaves. Tea thus prepared is said to be simply delicious, and, what is still better, a sure preventive of flatulency, nervousness, cholera, diarrhoea or loss of appetite.

Among the Granges.

The regular monthly meeting of Brighton Grange, Montgomery Co., Md., was held at the Grange Hall, on Friday, September 26, W. Overseer R. H. Lansdale in the chair. Owing to the busy work of seed time, only 18 members were present and three visiting members.

The reports of committees and the questions for discussion were laid over to the next meeting, because of the small attendance of members.

Bro. Aug. Stabler read from a speech delivered at the Tri-State Picnic, showing the comparative exhaustion of the soil by three cereals—wheat 57, corn 81, oats 105—and that the latter crop needs potash and magnesia: he also gave an interesting account of the experiment to extract sugar from sweet corn stalks, which he had witnessed in Frederick county. We give in another column an account of the present condition of this new industry.

The regular monthly meeting of Limestone Valley Grange, of Clarksville, Howard Co., Md., was held Thursday, October 2, W. M. F. C. Pue in the chair, James Harban secretary.

The principal item of business, and one which absorbs most of the attention of the Grange at this time, was the building of a Grange Hall, which subject was introduced by the W. Secretary. After considerable discussion on the preliminary measures. Brothers Miller, Committee on Subscriptions, and Harban, Committee on Site, were continued, and the latter instructed to secure articles of incorporation for the company.

The Commissioner of Agriculture, Mr. Le Duc, evinced his desire for a close union of all the agricultural bodies of the country and his depart-

ment, by sending to the secretary for distribution some samples of wheat from the Department of Agriculture, which were divided among the members, who were requested to report results to the Commissioner.

As an indication of the progress made in the good work of building a Hall, we will state that a meeting of the stockholders was to be held at Clarksville on Saturday, October 25, at which time Bro. Harban will submit his articles of incorporation, secured as requested by the regular meeting of October 2. As an item showing the continued interest in the Grange by its members, 19 of the latter were present, and about 30 persons partook of the abundant feast provided by the fair sisters of Limestone Valley. **

Sugar from Sweet Corn-Stalks.

INTERESTING EXPERIMENTS.

On Thursday, September 4th, some valuable experiments were conducted under the auspices of the Department of Agriculture, at Washington, at the factory of Louis McMurray, in Frederick county. The object was to ascertain the quantity of sugar in sweet corn stalks, and the practicability of extracting it as an article of commerce. The experiment was a link in the chain of the Commissioner's openly expressed determination "to stop spending \$80,000,000 a year for foreign sugar." There were present, Mr. Wellington, of the chemical division of the department, Mr. Weeks, of the Chesapeake refinery, and Mr. Aug. Stabler of Montgomery county, Md. The conditions were unfavorable for obtaining a supply of the juice, as only a 2 horse mill was used instead of a 5 horse, and it took 12 hours to get enough juice to fill the pans to prevent burning. The mill for expressing the juice for the stalks, was the common old-fashioned one of two vertical rollers, one being turned by direct application of the power, and the other by connecting cogs. The stalks were fed as if into a cutting box for feed; the resulting juice being conveyed directly to a copper pan, and heated to 180° F. or 82° C.; then cream of lime was added, until alkaline reaction was determined by litmus paper; then heated rapidly to the boiling point; the heating was done by steam, through a coil of pipe in the bottom of the pan; then heat was shut off and the liquid allowed to settle, and the clear liquor was drawn off to another pan by a cyphon, leaving the sediment at the bottom. The object of the cream of lime was to precipitate all impurities and foreign substances in the form of sediment. This clear liquor was allowed to cool

150° F., then a fluid ounce of sulphurous acid to a gallon of the juice was added, until acid reaction was exhibited by litmus paper; rapid evaporation was then induced and the mass constantly skimmed with an ordinary ladle to remove all floating impurities, adding the sulphurous acid when necessary in small quantities to keep up acid reaction during the boiling in the second pan, which contained a coil of pipe and was heated like the first one: when the thermometer in the boiling juice indicated 235° F., steam was shut off and the sugar allowed to crystallize in suitable vessels: in this state it is ready for the refiner. Syrup which has been at 235° is very thick when cool.

Two lots of stalks were tested in the above experiments; one was cut two weeks before the ears were fit for market: this yielded 3 per cent. of crystallizable and 5 per cent. of uncrystallizable; the other lot was cut at the time the ears were sent to market, and yielded 5 per cent. of crystallizable and 3 per cent. of uncrystallizable sugar. By a still later cutting it was believed the stalks would yield a still larger percentage of crystallized sugar.

In the process of refining — getting the sugar from the syrup, every pound of uncrystallizable sugar prevents one pound of crystallizable from being made available; hence the importance of cutting the stalks at the time when they will yield the largest quantity of crystallizable sugar.

It is proper to conclude this article by stating that, notwithstanding sugar was readily made as stated above, corn-stalks do not yet present themselves as an available source of sugar for commerce, and in the opinion of those who have examined into the various sources of our sugar supply, next to beets, sorghum is considered at present the most promising plant for the purpose. * * *

THE CARROLL COUNTY FAIR held at Westminster on 30th of September to 3rd of October, was largely attended, and the meeting, we judged from our personal observation, was a very successful one. The products of the fields, farms, orchards and dairies were unusually superior, and the household manufactures were most excellent and in great variety.

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A NATIONAL AGRICULTURAL SOCIETY.

PRELIMINARY MEETING FOR THE FORMATION OF A NATIONAL ASSOCIATION.

A meeting of very great national importance took place at the room of the Farmer's Club, in Cooper Institute, N. Y., on 22d October. The object was a conference preliminary to the organization of a national agricultural society. The design is a broad one and intended to embrace every agricultural interest and represent every section of the country, as well as the advancement and protection of American agriculture by practical measures. Its scope will also include the promotion of immigration, the holding of national fairs, and the dissemination of thought and experience on matters pertaining to agriculture.

The formation of this society is not based upon any pecuniary motive. Its promoters are men who, if not in all cases practical farmers, are deeply interested in the welfare of the agricultural interests of the country, as merchants, ship owners and forwarders, and similar pursuits dependent on the cereal and other food products of the United States. The most successful farmers throughout the entire country are in great measure identified with the movement, and at the meeting some of the largest farming interests were represented.

The meeting was called to order and organized by the election of Hon. Victor E. Piollette, of Pennsylvania, as president; Dr. A. S. Heath, of New York, and Governor Hyde, of Connecticut, as vice-presidents; and Messrs. Ezra Whitman, of Maryland, and W. Wilson, of New Jersey, as secretaries.

Mr. J. H. Reall, the gentleman who conceived and carried into execution the International Dairy Association, and who is identified with the agricultural interests of the country, then produced a great number of letters of encouragement and promises to be present at this preliminary conference, from various gentlemen of high standing in their respective States, many of whom redeemed their pledges by their personal attendance. Mr. Reall thereupon delivered the following address:

MR. REALL'S ADDRESS.

"We have met to consider the question of organizing a National Agricultural Society. Some of us have given the subject long and careful thought only to become the more strongly convinced that there is need of such an institution, and that it can be made of great utility.

"For another time and place I must reserve any lengthy discussion of the great industry which we seek to promote, and out of consideration for your

time content myself with a few remarks bearing on the work in hand. I shall not attempt to suggest all that may be done by a National Agricultural Society, nor indicate all the good that it might accomplish. The proposition is to organize an association, national in character, for the protection and advancement of agriculture in the United States by practical methods. Prominent among those contemplated are periodical exhibitions of the products of the soil in one of the principal cities of the country, the encouragement of immigration, meetings for discussion, and the collection and dissemination of the best agricultural thought and experience. Every agricultural interest and every section of the country is sought to be represented in its membership and work. Although of more importance in the United States than all other interests combined, agriculture receives less attention from the General and State Governments than any other. Nearly every other government gives more attention to its advancement than our own, though the United States is essentially an agricultural country than any other. The magnificent development of our farming resources, unequaled as they are, is due to the sturdy industry, self-reliance, endurance, intelligence, and enterprise of the men who have converted the wilderness of a century ago into the garden of to-day. Individual effort, supported and encouraged by the newspaper press, has placed American agriculture on the high pedestal it now occupies. Government has retarded rather than advanced its growth. Instead of legislating for it, class interests have been promoted, often to its detriment. In special branches of agriculture great good has been done by organization. The intelligent and enterprising labors of the cattle clubs, horse breeders' associations, fruit and wool growers' societies, have raised these interests to a high position. The American Dairymen's Association and the State and county societies have placed the dairy industry in a commanding place. The State and county agricultural societies, together with the State boards of agriculture, have done good that is beyond computation. Their promoters deserve all praise.

"The Royal Agricultural Society of England, founded in 1838, contains over 7,400 members, comprising as well the leading agriculturists and the foremost men of that country. I can give no better idea of it than by quoting the following from an article on the society and its Bristol show of last year, by Col. Geo. E. Waring, Jr., in *Harper's Magazine* of last January: 'To a thoughtful person certainly nothing in England could be more impressive, more indicative of the enormous

wealth and power of the people, than the collection of animals and implements gathered together at this annual show. Traveling through the country in this harvest season, surrounded on every side by an agriculture with which we have nothing to compare, passing hundreds of large fields of wheat which can hardly yield an average of less than thirty five bushels per acre, and where uniform excellence is remarked on every hand; among fields of root crops, from twenty to one hundred acres in extent, absolutely clean and absolutely unbroken in their uniformity of growth; where the grass during the hay harvest suggests the Irishman's pig, which was "tallest when lying down," so heavy a swath does the apparently slight growth make, one hardly wonders that an area not larger than the States of New York and Pennsylvania should hold a population almost equal to that of the whole United States; but one needs to see gathered together within the reach of an hour's walk specimens of the men and the tools and the animals by which this cultivation is carried on, to realize how very far beyond our best standard is the almost universal cultivation of this remarkable land.' Mr. Waring gives the Royal Agricultural Society credit for the elevation of English farming to the high condition he mentions. It holds an annual show and publishes a semi-annual Journal, of the best agricultural literature in England.

"The demands of the future upon our agricultural resources will be far greater than they have been in the past, and new methods and new systems must be devised and employed to meet them. The yield of the land now under cultivation must be increased, and new fields prepared for new wants. To compete with other nations who, like ourselves, have learned how great the dependence is upon the soil, our farmers must employ greater skill and exercise greater care in their work. The requirements upon them will continue to increase.

Then, too, the drudgery of the farm should be lessened, and the farmer relieved from many of his present burdens, his toil lightened, and his comforts increased through the promulgation of new ideas, and the employment of improved labor-saving machinery. All classes are interested in the accomplishment of these ends, for upon the prosperity of all, and it is, therefore, the duty and interest of all to promote the growth of agriculture and the comfort of its followers.

"The depression in Europe, particularly in England and Ireland, will cause a large emigration, and it is important that this country's advantages be clearly and prominently set forth if we would benefit by it. Canada is bidding strongly for it, and Australia offers great inducements. We have millions of acres of land for sale by the Government, and the railroads, of unequalled fertility and easy of access, for which we want occupants, while double the population could be supported on that

already under cultivation if properly tilled. New York, New Jersey, Pennsylvania, Virginia, and the Southern States teem with valuable lands, in addition to the almost boundless acres of the Western States and Territories. Canada proclaims the fact that her Northwest Territories are capable of furnishing wheat for the whole world. It is time that we did something for our own protection as a country, and paid some attention to our leading industry. This was realized by those excellent gentlemen, Marshall P. Wilder, Ben Perley Poore, Frederick Watts, John Merryman, Ezra Whitman, and their co workers, who established in 1853, and successfully conducted, the United States Agricultural Society until the war.

"It will not do to trust to chance any longer; the age and circumstances demand something else. We must provide for the surplus population of our large cities either by affording more employment through larger business with the country, or by facilitating their settlement on lands. It is not creditable to our civilization that deserving men and women should want for the necessities of life, or that crime should rage as it does because of our overcrowded cities.

"The aim is to form an association that will command the respect and confidence of the whole community, an organization free from secret methods and combinations. No demagogism will be encouraged, or unpractical visionary schemes promoted. There are no selfish ends to be gained. The sole purpose is the advancement of agriculture by a society based on truthful practices and clean cut principles, the improvement by natural means of the condition of all. It is not intended to supplant a single existing organization, but to co-operate with all that will work with the new one. They will be as necessary as ever.

"The society should be so broad in scope, and the expense of membership so light, that every one interested in the soil and its products might be a member. Its influence should extend to the producer and consumer, that the entire community might receive the utmost good from it. Let us form an association that shall bind the country in bonds of union impossible to be broken. This is possible alone for such an organization; by such an organization it is easy of accomplishment. It is intended that the society shall be conducted by the ablest and purest men upon the best plans that thought and experience may suggest. There are thousands of public-spirited men who stand ready to assist in advancing the cause of agriculture and the interests of its followers who only need to have the proper way suggested.

"I take pleasure in calling attention to the fact that Senator H. G. Davis, of West Virginia, member of the Senate Committee on Agriculture, will introduce a bill at the coming session of Congress for the organization of a Department of Agriculture, whose executive officer shall be a member of the cabinet. All the leading European governments have such a department, England having organized one last spring. I hope every farmer and every friend of the soil will second Mr. Davis' endeavors. His speech in the Senate last winter was a grand plea for the agricultural industries.

"Strong as is my own faith in the practicability of this undertaking, and great as are the possibilities that have unfolded themselves to me, as I have

considered the idea of a National Agricultural Association, I am surprised that it receives the general support indicated by the letters I have received. All that has been done thus far has been by personal correspondence, and it has only been possible to hint at the idea, and yet we have letters of approval from leading men in almost every section, and the best and most encouraging features of the work are the kind letters of approval that have been received from editors and publishers of agricultural journals. Great things are possible when the press approves. It always encourages that which is right."

After a general interchange of opinions took place, in which the hope was generally expressed that the late United States Agricultural Society would unite with this new movement and re-suscitate its usefulness of the present popular effort, the following resolution was passed:

Resolved, That a committee of thirteen be appointed by the Chair, (he to be one of the committee), to issue a call and make preparations for a meeting in New York city, on Wednesday, December 10, for the organization of a national agricultural society, at such hour and place as they may deem expedient, and that said committee make arrangements for the reading of papers and discussion of questions relating to agriculture at such meeting, as well as prepare a constitution and by-laws and a form of charter that Congress will be requested to grant.

The committee are J. H. Reall, of New York, chairman; Wm. B. Crozier, of Northport, L. I.; Professor H. E. Alvord, Massachusetts; Lawson Valentine, New York; ex-Governor E. H. Hyde, Connecticut; Colonel J. B. Mead, Superintendent of Agricultural Affairs of Vermont; Dr. A. S. Heath, L. S. Harden, New York; James Neilson, New Jersey; Ezra Whitman, Maryland; T. S. Gold, secretary New York State Board of Agriculture, and F. Ratchford Starr.

The meeting then adjourned.

THE SEASON.—The unprecedented weather in October was very favorable to the curing of tobacco, and we are glad to learn that our tobacco planters have generally succeeded in securing a fair quantity, and curing it in a satisfactory manner. The present prospects are encouraging for high prices next year, as the color and quantity of the crop will be superior to that of any crop,—Maryland crop especially—which our planters have housed for many years past. The wheat sowed in the dry spell came up well, and the crop is every where very forward. It all will be wanted next year to supply European deficiencies. We have no doubt, wheat before the harvest of 1880, will bring \$1.75 per bushel.